

NURSING DIAGNOSIS: A TOOL TO WRITTEN CARE PLANNING

by

Mary Arlene Southerland

A thesis submitted to the faculty of The
University of Utah in partial fulfillment of the requirements
for the degree of

Master of Science

College of Nursing
The University of Utah
December 1980

THE UNIVERSITY OF UTAH GRADUATE SCHOOL

SUPERVISORY COMMITTEE APPROVAL

of a thesis submitted by

Mary Arlene Southerland

I have read this thesis and have found it to be of satisfactory quality for a master's degree.

5/2/82
Date

Carol A. Kirgis, R.N.
Chairman, Supervisory Committee

I have read this thesis and have found it to be of satisfactory quality for a master's degree.

5/2/82

Sandra W. Haak, R.N., M.S.
Member, Supervisory Committee

I have read this thesis and have found it to be of satisfactory quality for a master's degree.

5/2/82

Carol J. Gates, R.N., M.N.
Member, Supervisory Committee

FINAL READING APPROVAL

I have read the thesis of Arlene Southerland in its final form and have found that (1) its format, citations, and bibliographic style are consistent and acceptable; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the Supervisory Committee and is ready for submission to the Graduate School.

Member, Supervisory Committee

Linda K. Amos, Ed.D., F.A.A.N.
Chairman Dean

James L. Clayton
Dean of The Graduate School

ABSTRACT

The effect of the introduction of a workshop on nursing diagnosis and the diagnostic process on the skills in identifying patient problems/diagnoses and interventions from an identical case study was evaluated in 48 nurses employed at the Veterans' Administration Medical Center in Salt Lake City, Utah. Nurses were randomly assigned to three groups, two designated as experimental groups, and one as a control group.

Group A received a workshop and utilized a list of currently accepted nursing diagnoses to develop their problem list. Group B received only a list of currently accepted nursing diagnoses. Group C, the control group, received no manipulation by the investigator.

There was no statistical support for the hypotheses that the workshop would result in differences in the number and significance of the problems and interventions listed by the three groups.

However, Group A identified fewer problems and interventions from the case study with less utilization of medical diagnoses or signs and symptoms. There was a greater degree of concurrence between Group A's list of nursing diagnoses and interventions and the panel of experts' list of nursing diagnoses and interventions than between the other two groups.

Group A was more specific and concise about the problems they identified and the interventions they planned than the other two groups.

To the United States Navy Nurse Corps for the opportunity
and support of this educational endeavor.

TABLE OF CONTENTS

	Page
ABSTRACT	iv
LIST OF TABLES	xiii
LIST OF FIGURES	ix
CHAPTER	
I. INTRODUCTION	1
Problem Statement	1
Purpose of Study	2
Conceptual Framework	4
Nursing Diagnosis	7
Diagnostic Process	8
Nursing Interventions	10
Summary	12
II. REVIEW OF THE LITERATURE	13
History of Nursing Diagnosis	13
Definitions and Projected Impact of Nursing Diagnosis	16
Nursing Diagnosis Differs from Medical Diagnosis . .	24
Development of Nursing Diagnosis	26
Summary	32
Hypotheses	32
Assumptions	33
Operational Definitions	33
III. METHODOLOGY	36
Design	36
Subjects	39
Procedures	40
Data Analysis	44
Human Subjects' Consideration	44
Limitations	45

CHAPTER	Page
IV. RESULTS AND DISCUSSIONS	46
Hypothesis Testing	91
V. SUMMARY	97
Conclusion	100
Recommendations	102
APPENDICES	
A. NURSING DIAGNOSES--ACCEPTED	106
B. NURSING DIAGNOSES--FOR CONSIDERATION	108
C. PROFILE SHEET	110
D. PROCEDURES AND OBJECTIVES OF WORKSHOP	113
E. STUDY INSTRUMENT--CASE STUDY	120
F. LIST OF DIAGNOSES/PROBLEMS LISTED BY PANEL OF EXPERTS .	126
REFERENCES	128

LIST OF TABLES

Table		Page
1	Descriptive Data	49
2	One-Way Analysis of Variance (ANOVA)	51
3	Descriptive Data	52
4	Clinical Position	59
5	Current Clinical Area	61
6	Journals Read	62
7	Questions Asked Concerning Concepts	64
8	Hypotheses	69
9	Number and Significance of Problems and Interventions	70
10	Composition of Problems Identified	76
11	Types of Problems Commonly Identified	77
12	Problems Identified by Experts of Nursing Diagnosis	82
13	Concurrence with Panel of Experts of Problems Identified	85
14	Concurrence of Participants with Experts	86
15	Problems Identified by Clinical Experts	88

LIST OF FIGURES

Figure		Page
1	Nursing Process	5
2	Components of Nursing Process	6
3	Nursing Diagnostic Process	11
4	Medical vs. Nursing Diagnosis	27
5	Design of the Study	37

CHAPTER I

INTRODUCTION

Problem Statement

Nursing diagnosis, or the identification of patient problems, has been the least developed and most inadequately studied step in the nursing process. The nursing process involves five sequential steps whereby each successive step is dependent upon the skillful completion of the previous step. If the nursing process is to be effective, all of the steps must be completed.

The first step in the nursing process requires a thorough, conscientious assessment of the patient and his concerns. This assessment provides the foundation for the nursing diagnosis, which is the second step of the nursing process. It is proposed that the utilization of a list of nursing diagnoses will assist nurses in effectively identifying patient problems that have been discovered during the initial assessment. Once nurses become adept in the use of this tool, it is assumed that added proficiency will further facilitate the completion of the remaining steps in the nursing process.

There exists a poor realization of the nursing process in the clinical setting. A general lack of information and a

misunderstanding of nursing diagnosis are possible reasons for this apparent weakness. At the present time, nursing diagnosis is accused of being the weak link in the nursing process. Unless the concept of nursing diagnosis is clarified and implemented, the nursing process is ultimately doomed to failure.

Would the use of a list of patient problems, such as the list of nursing diagnoses, help nurses identify patient problems, and ultimately, plan appropriate nursing interventions?

Purpose of Study

The purpose of the study was to observe the effects of the utilization of a list of nursing diagnoses on the ability of nurses to efficiently identify patient problems versus the ability of nurses to efficiently identify patient problems without the use of a list of nursing diagnoses. In addition, a secondary purpose of the study was to evaluate the effect and benefit of an introductory lecture in the form of a workshop on the ability of nurses to utilize nursing diagnosis.

The objective of the study was to evaluate the effect of a list of nursing diagnoses as a tool in providing more effective written care planning. Primary nurses are expected to provide written plans of care for each patient assigned to their case load. The written care plan has become synonymous with quality patient care. However, written care plans are virtually nonexistent in the clinical setting.

The concept of nursing diagnosis was introduced to a group of

hospital staff nurses. This was accomplished in a four-hour workshop utilizing realistic case studies, an explanation of nursing diagnosis, a definition of terms, and a lecture elucidating the implementation of nursing diagnosis and the diagnostic process.

For the purpose of this study, the hospital staff nurses were randomly divided into three separate groups. The nurses who attended the workshop were assigned to Group A. Having benefited from the information disseminated at the workshop, participants in Group A were expected to identify appropriate nursing diagnoses in a single selected case study. In addition to the four-hour workshop, participants in Group A were given a list of the currently accepted nursing diagnoses to utilize as a reference in patient problem identification. Having established nursing diagnoses, Group A members were then expected to develop effective nursing interventions for each of the potential problems identified earlier.

Nurses in Group B were given the same case study used by Group A. In addition to the case study, members of Group B were also given a list of nursing diagnoses. Group B was likewise expected to select appropriate nursing diagnoses and plan necessary nursing intervention.

Participants assigned to Group C, the control group, received the identical case study as Groups A and B. Members of Group C were expected to identify and list potential patient problems and appropriate nursing interventions without manipulation by the investigator.

All groups received the same instructions pertaining to the

completion of the case study. They were requested to identify the patient's problems as nursing diagnoses that they would normally identify as being within the realm of nursing responsibilities. Next, they were asked to plan nursing actions for each of the problems identified.

The purpose of this procedure was to provide a method amenable to comparison. This study hoped to demonstrate an enhanced ability of a group of nurses to effectively select and identify patient problems and establish appropriate nursing intervention, based on a directed understanding and appreciation of nursing diagnosis.

Conceptual Framework

Nursing Process

The common theme is the nursing process, which consists of five subsystems (Figure 1). The nursing process is a circular, ongoing procedure for problem solving. Each step is significant for the effectiveness and efficiency of the entire process.

There is an input into the nursing process that is influenced by a nurse's educational experience, clinical experience, and the individual variation of the person. These factors have influence on the input or the performance of the nursing process.

An output is also provided in the nursing process, consisting of the patient care plan, patient care, and suggestions for improvement (Figure 2).

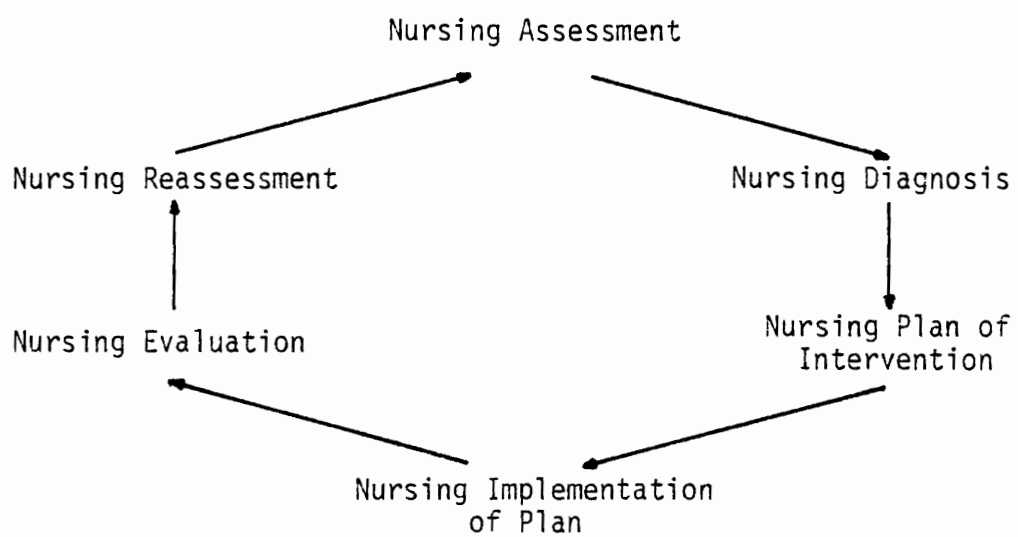


Figure 1. Nursing process.

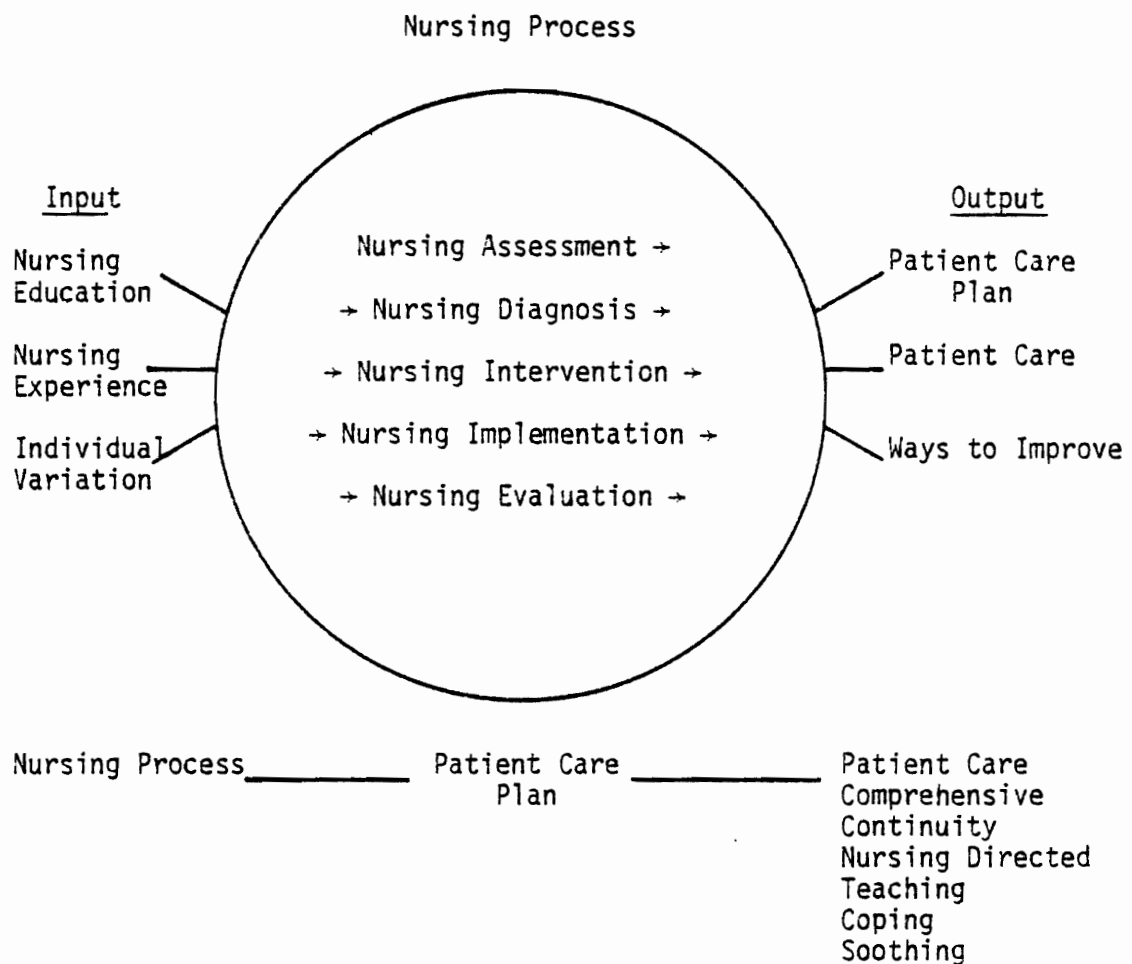


Figure 2. Components of nursing process.

Nursing Diagnosis

The Nursing Diagnosis is a significant component of the nursing process. It is an early step and one that is often inconsistently and poorly executed. The weakness of this step can be seen in the numbers of problems that nurses identify on care plans that have no implication for nursing intervention but are directed solely by the physician.

As an example of some of the difficulties with current problem identification on care plans, this investigator selected a few care plans that were available in a patient care area and listed some of the problems that were identified by nurses: increased intracranial pressure, maintain proper management [sic] of the nasogastric tube, maintain optimal kidney function, obtain urine specimen, aspiration, bed sore, abdominal pain, or bedrest.

The significance of this list is that there were no interventions outlined on the care plans for these problems that were identified. Problems that would seem pertinent to nursing intervention such as bed sores were not provided with a plan of intervention that was nursing directed. The physician is designated as the sole, responsible person for intervening if the nurse does not initiate a plan in coordination with other health team members. If the nursing diagnosis of alteration in skin integrity due to immobilization and prolonged bedrest was made, nursing interventions would flow easier and prevention and cure could be provided by the nursing staff. This is identified as being in the realm and responsibility of the nursing profession and should be a part of the care provided.

Nurses are willing and able to define problems but the confusion of nomenclature results in poor follow-through in the succeeding steps of the nursing process. A common list of nursing diagnoses, such as the one developed by the National Conference on Classification of Nursing Diagnosis, may be a tool that provides a clarification of nomenclature for nurses to identify patient problems. This list may also establish a framework which flows smoothly from problem identification, which is defined as the responsibility of the nurse, to interventions, implementation, and to the re-evaluation of the results. It would also give nurses an experience that is easy to recall for future reference in similar problems.

A common tool and a common language may cause the excess of nomenclature currently utilized by nurses to be simplified into a controllable and easy-to-apply tool.

For purposes of this study, nursing diagnosis refers to the list of 37 acceptable diagnoses developed by the National Conference on Classification of Nursing Diagnosis. The workshop that the investigator conducted utilized these 37 diagnoses. The workshop case studies were also developed around these 37 diagnoses (Appendix A).

Diagnostic Process

Before nurses can be competent in utilizing the concept of nursing diagnosis in practice, competency in the skills of using the diagnostic process must be achieved.

Process of Diagnosing: I. Nurse as Investigator

1. Information from health team members (verbal, written)

2. Information from patient, family, or significant other
3. Observation of the patient (interview, palpate, senses)

II. Thought Process

1. Scientific knowledge applicable to nursing science
2. Definition of nursing
3. Past nursing experience

Nursing Diagnosis: III. Recognition of a Pattern

1. Statement of conclusion
2. Evaluate
3. Revision (Durand & Prince, 1966, p. 52)

The nursing diagnostic process aims to identify a patient's resources and his deficits which would give some indication as to the areas of need for nursing intervention. A nursing diagnosis is composed of three parts, which include: the state of the patient, etiology, and signs and symptoms. The diagnostic process identifies these three areas as specific for the individual health needs of the patient.

Problem:	State of the patient, identifies the problem, acute or chronic, as perceived by the patient or nurse.
Etiology:	Cause of the problem, anatomical, physiological, psychological, environmental, or etiology can be a result of lack of knowledge or denial.
Signs and Symptoms:	Patient behavior that provides clues to patient problem. Signs and Symptoms help establish priority of problems based on a hierarchy of need. (Gordon, 1976, p. 1299)

Henderson describes the diagnostic process as evolving around a human subject situation (Figure 3). There is a collection of data via nursing assessment which would identify the health problems that are amenable to nursing intervention. The health problem identified is further substantiated and enhanced by relational phenomena, etiological conditions and/or situations, and the human response to the stressors (Henderson, 1978, p. 80).

Nursing Interventions

The investigator has defined nursing interventions for purposes of this study as the outlining of actions that nurses will consciously plan and record in written form to direct the nursing care aimed at assisting the patient cope with or adapt to his health stressor.

Intervention is the initiation and completion of steps necessary to achieve the desired goals established for each individual patient. Campbell's book, Nursing Diagnosis and Intervention in Nursing Practice, was the resource for interventions to be outlined for the identified nursing diagnoses or problems. In her book on nursing diagnosis and intervention, Campbell identified seven categories that outline nursing intervention: assistive, hygienic, rehabilitative, supportive, preventive, observational, and educational (Campbell, 1978, p. 22). A description of what is expected of nurses is described for each category. These categories give an outline of what nurses are capable of doing and are professionally responsible for doing for the patient.

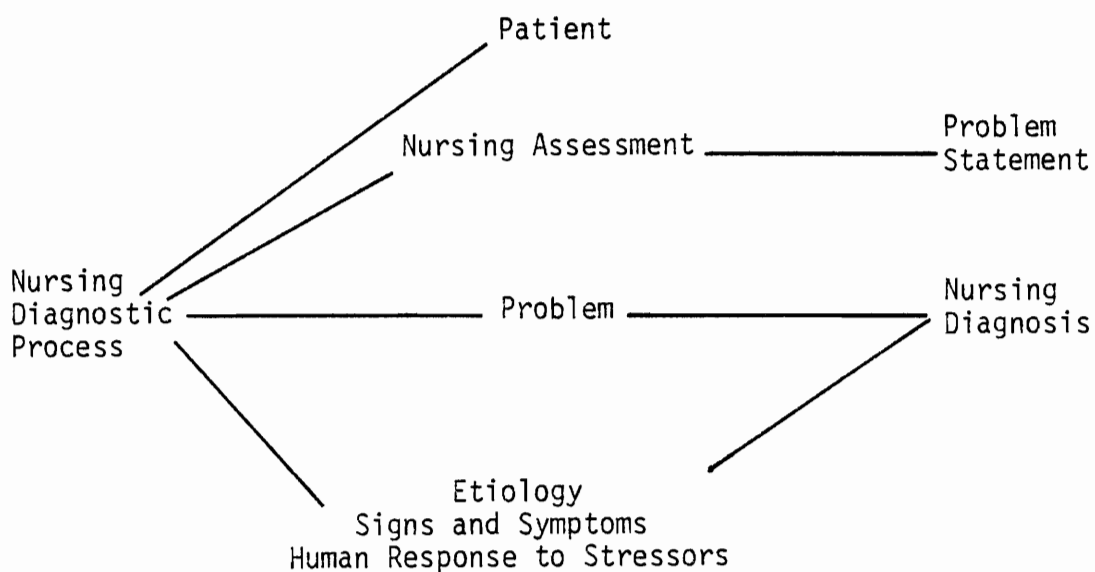


Figure 3. Nursing diagnostic process.

Note.-- Reprinted from Nursing diagnosis: Theory and practice by Betty Henderson by permission of Aspen Systems Corporation, 1978.

The definition of this step, and further studies focusing on nursing interventions, is a strong support for the concept of the nursing process as a tool to define and justify the realm of nursing. As nursing interventions are recognized, studied, and improved, the strength of the profession, as an instigator of improving health care, is increased.

Summary

The subject of interest for this study was nursing diagnosis. But it is only a small part of a whole system that provides an improved quality to the skill of nursing care. The successful implementation and recognition of the potential of this step may be a factor in decreasing the resistance to written nursing care plans in the clinical setting. For this concept to be successful, clinical nurses will have to utilize nursing diagnosis and be instrumental in its future development. The objectives of the nursing diagnosis are to initiate further interest in the remaining steps of the nursing process so that the written care plan will become an effective tool. As a meaningful instrument, the written care plan will communicate the information concerning an individual which will give direction to nursing intervention toward the correction of a health problem, the coping with a health problem, or the maintenance of a designated level of health.

CHAPTER II

REVIEW OF THE LITERATURE

History of Nursing Diagnosis

As early as 1950, the term nursing diagnosis was mentioned in the nursing literature. McManus first interpreted this term as being the unique function of the nurse (McManus, 1951, p. 54). Fry wrote that "a creative approach to nursing involves a nursing diagnosis and a means for carrying out a plan for the individual person" (Fry, 1953, p. 301). This creative approach to nursing asked nurses to formulate a nursing diagnosis, to design a plan of individual care and to implement this plan. This was a revolutionary new approach to nursing, proposing that a nurse could independently recognize patient problems and initiate solutions.

The concept of nursing diagnosis did not readily evolve after its initial mention in the 1950's. However, the creative approach to nursing started affecting the profession of nursing immediately.

Yura and Walsh of Catholic University in Washington, D.C., further developed this approach into the nursing process:

The nursing process is a systematic, orderly manner of determining the client's problems, making plans to solve them, initiating a plan or assigning others to implement it, and evaluating the extent to which the plan was effective in resolving the problem identified. (Yura & Walsh, 1978, p. 820)

Initially, there were four distinct steps to the nursing process: assessment, planning, implementation, and evaluation. Recently, a new step to the process has been added, that of nursing diagnosis. It is now recognized as the second step in the nursing process.

Prior to the addition of nursing diagnosis as an essential step in the process, there existed a great deal of confusion as to what were patient problems or patient needs that lent themselves to nursing intervention. This confusion presented a stumbling block to the next steps of the nursing process--planning, implementing, and evaluation.

Andrea Bircher noted the confusion in nursing nomenclature in a study conducted in a 60-bed psychiatric hospital. Over a three-week period, the nurses identified 399 patient concerns (Bircher, 1975, p. 17). The desire and ability of these nurses to identify concerns was apparent, but it was also apparent that there was a need to organize this diversity of nomenclature into a systematic and organized classification system specific to nursing. This organization might be a step toward decreasing the confusion surrounding the function of nursing.

A tool was needed that would help standardize the identification of patient problems specific for nursing intervention. The nursing process set up a problem-solving format, but the inability to effectively identify a problem impeded the effectiveness and utilization of the nursing process.

In 1972, a subcommittee of the American Nurses' Association met with the intent of developing a classification system for nursing nomenclature. Several nursing leaders, primarily David, Henderson, Bircher, Dodge and Roy, believe that if nursing was to maintain a position in the rapidly expanding and specializing field of health care, it would have to define and lay claims to its realm of function. This classification system of nursing diagnosis would be the beginning effort with just such a purpose--to define all that is relevant to nursing. This was not to be an easy task.

The initial conference was attended by 100 nurses with a variety of clinical, educational, and research backgrounds (Gebbie & Lavin, 1975, p. 1). The intent was to articulate health problems that comprise the domain of nursing and classify these problems into a taxonomic system. This taxonomic system would be similar to the one used by medicine to list common diagnoses.

The conference was not successful in developing a classification system. However, an initial list of nursing diagnoses was generated. At the conclusion of this conference, the taxonomy was introduced into the various clinical settings and implemented. It was hoped that this would further develop and clarify the original list by pointing out the overlaps, weaknesses, and strengths. More importantly, it was hoped that this initial list of nursing diagnoses would give rise to discussions that would result in the development of new nursing diagnoses.

Since the initial conference, there have been two subsequent conferences held, and a fourth was held in April 1980. These

conferences have not been successful in developing a classification system but they have developed a list of 37 acceptable and 19 tentative diagnoses (Appendices A and B).

Acceptance of a diagnosis means that the national conference participants believe that the particular diagnosis is within the domain of nursing practice, and they suggest clinical utilization and testing of the diagnosis. (Gordon, 1979, p. 488)

The tentative, or 'diagnoses for consideration,' are those diagnoses requiring further evaluation as to their implications for nursing.

Nursing diagnosis was first mentioned as a part of the nursing process 30 years ago. It was poorly developed subsequent to this early beginning as a specific area of interest in the nursing process. In 1973, there was a new arousal of interest in nursing diagnosis in the work of the classification conferences initiated by Gebbie and Lavin through a subcommittee of the American Nurses Association. Yet, today, in the clinical setting, there is little evidence of the use of nursing diagnosis. Nursing diagnosis has not yet crossed the gap between theory and education into practice.

Definitions and Projected Impact of

Nursing Diagnosis

At the present time, there exist a number of variations for the definition of nursing diagnosis. These different interpretations, however, are appropriate and remain significant to the development of nursing diagnosis as a concept for clinical practice.

Nursing diagnosis is being recognized for its potential to improve the quality of nursing care, delineate the domain of nursing accountability, and contributing

to the unique body of nursing knowledge. (Field, 1979, p. 497)

Nursing diagnosis has the potential to alleviate the ambiguity about the role of the nurse, so that the scope and focus of nursing practice can be more clearly defined (Bruce, 1979, p. 510).

The role of the nurse is expanding, as witnessed by the emergence of nurse practitioners, clinical specialists, and primary care nursing. These developments have extended the function of nursing into the health care setting and have resulted in confusion surrounding the expected role of the nurse. Nursing diagnosis focuses the responsibility of patient care upon each nurse and will eventually provide incentive that will give nursing a unique identification among the health care professionals.

This unique identity and defined area of responsibility can also be an aid in making the nurse more articulate in the health care setting. Nurses will have more to offer the client as well as other health professionals and will serve to improve health care and health care delivery.

Gebbie and Lavin provide a more inclusive definition of nursing diagnosis:

Nursing diagnosis is the identification of those patient problems or concerns most frequently identified by the nurse before they are recognized by other health care workers, and problems which are amenable to some intervention which is available in the present or potential scope of nursing practice. (1974, p. 250)

A significant aspect in this definition is the underlying theme of nursing autonomy based upon the clinician's identification

of patient problems that are amenable to nursing intervention. Before nursing can firmly establish itself as a profession, there must be a focus of independent practice in the health care setting. A list of nursing diagnoses that defines the realm of nursing will provide an answer to the question of responsibility for the practicing nurse.

A difficulty then, in developing a list of nursing diagnoses is apparent because this list must be differentiated from other health professionals' functions. It must also be inclusive of all that nursing is educationally and professionally prepared to do in patient care.

Being autonomous implies the nurse will be responsible for certain problem areas. The nurse will diagnose and prescribe intervention for these recognized problem areas (Roy, 1975, p. 1028). Nurses will work effectively and independently within the area of claimed responsibility, yet will also work interdependently with other health professionals in providing necessary health care assistance to the patient. In the opinion of this investigator, autonomy is the current stumbling block in the path of nursing's efforts to become a true profession.

Marjory Gordon describes nursing diagnosis as "actual or potential health problems which nurses, by virtue of their education and experience, are capable and licensed to treat" (1976, p. 1299). Gordon's definition views education and experience as keys to providing nurses with responsibility and the skill required to identify patient needs.

The incorporation of the nursing process and specifically the nursing diagnosis into the American Nurses' Association's standard of practice has given support to the legal as well as professional acceptance of the use of nursing diagnosis in clinical practice. Also, this legal and professional support gives the nurse increased responsibility to be knowledgeable, make appropriate decisions, and be current with the state of the art of nursing practice which today includes the nursing process and nursing diagnosis.

The nursing process is a systematic approach to defining the best solutions for patient health care needs. Therefore, the incorporation of the nursing process into the clinical setting is an essential as well as beneficial addition to practice. Since nursing diagnosis is a part of the nursing process, it must be regarded as an essential part of the process if nursing is to have a significant impact on the health care of patients.

Before the nursing process is to be successfully accomplished, nurses must be skilled and competent in two areas: problem identification, and problem solving. To be effective in identifying problems, nurses must have skills in gathering, examining and interpreting information, identifying problems, and finally, stating the problems. To solve the problem, nurses need to be able to develop alternatives, make decisions, develop and decide upon a plan of action, execute the plan, evaluate the results, and revise the plan as necessary (Fredette & O'Conner, 1979, p. 544).

To accomplish these steps involves the cognitive, affective, and the psychomotor domains of learning.

This involves: (1) intellectual operations, such as problem solving, decision-making, and application of theories, ideas, and concepts; (2) value judgments based on the respect for the dignity and worth of man; and (3) psychomotor skills both for assessment and intervention. (Guinee, 1978, p. 186)

These expectations of the nurse are realistic and should be incorporated into practice. The nursing process is a systematic approach to planning and providing care. This process is similar in definition to the scientific process, which follows a specific, logical sequence of observations and events when used for investigative purposes. This scientific process in nursing can increase accountability of nursing professionals to other health care professionals.

By incorporating the learning domains and the scientific process into nursing education, for both the nursing student and the nursing practitioner, the skills of nursing can be improved and there will be a resultant increase in knowledge which will broaden the scope and practice of nursing.

Nursing research will also benefit from the implementation of nursing diagnosis. Since the major function of nursing diagnosis pertains to the identification of health care problems, clinical nurses will provide nurse researchers with a vast reserve of patient care problems that require study and validation.

Nursing diagnosis is a framework that provides a clear and concise method of communication (Weber, 1979, p. 533). It does so by clearly identifying the health problems being treated by nurses. Today, the nurse is expanding into a more autonomous role in the health care setting and interfacing more with people who are

demanding to know what the nurse is providing to the health care system. Nursing diagnosis eliminates the vague terminology in describing the domain of nursing (Henderson, 1978, p. 77). Nurses can be more articulate in describing their function and justifying the financial and professional worth of their profession. The accountability of the nurse is achieved by defining the sphere of nursing activity.

Written care plans are often considered synonymous with quality nursing care. The nursing process and the nursing diagnosis can, therefore, be associated with a positive impact on quality care. The end product of the nursing process is the written care plan. The purpose of the care plan is to promote economy of time and effort for the nursing staff members by sharing findings, expediting care, and pointing out significant factors to be considered. The care plan should also strive to insure continuity, comprehensiveness, and safety required for quality patient care. The plan of care should be specific to the person for whom it is written. The effectiveness of the care plan is achieved by writing the plan, sharing the information, and discussing the results.

Although care plans are more an ideal than a reality, in practice the universal incorporation of the nursing process into practice may be a solution to achieving written care plans. The expectation of written care plans has been inconsistent and unrealistic to the practicing nurse. The confusion that this has created results in resistance to care planning. A consistent approach to care planning, via the nursing process, may decrease resistance by simplifying

written care planning. This could be achieved by providing a framework that is easy to follow and professionally acceptable to the practitioner.

The use of care plans as a tool for patient care planning has been accepted in principle, but the care plan itself has not been consistently or completely incorporated in nursing practice (Ciuca, 1972, p. 709). Problems with the accomplishment of written care plans are many fold. In an article on the promotion of written care plans, the authors noted:

The prevailing ideas, feelings, and attitudes of staff members often have their roots in previous orientations, in lack of orientation, and in the absence of clearly defined guidelines to what constitutes the planning of total patient care. (Jackson, Edmundson, & Green, 1978, p. 43)

These factors affect the clinical nurse's willingness to complete written care plans.

In April of 1980 at a conference in Salt Lake City, Dolores Little cited the following practitioner's complaints concerning written care plans: Care planning was dumped on nurses by people who are not doing care plans, there is not enough staff or enough time to accomplish care plans, there is no need for patient care plans, patients have survived for years without care plans, and finally, I don't want to make a mistake and have it in writing.

These are realistic statements and are heard in most facilities where written nursing care plans may or may not be a job expectation.

The initiation of written care plans was primarily an outgrowth of academics, followed by legislative measures which in turn

erected an administrative need (Ciuca, 1972, p. 711).

Administration took the tools of nursing process and written care plans and said as of now you will accomplish these tasks. Practitioners were offered minimal input as to the planning and implementation of these directions. Nurses were angry and the result has been resistance to care planning (Little, 1980).

Education developed a lengthy, often overwhelming and unrealistic written care plan. This expectation of what is a patient care plan was poorly adapted into the real clinical practice. This resulted in a poor accomplishment of written care planning by the new nurse in the clinical setting, who soon fell into the prevailing attitudes of the nurses before her that written care planning is not essential and is not feasible.

A list of nursing diagnoses would define the domain of nursing and the sphere of nursing activity. This clarification of the realm of nursing would also be a step toward exerting autonomy for nursing as a profession. Nurses would be accountable for certain problem areas and would assume responsibility for resolution of the identified problems. While interdependence of the health care team would remain, nursing would have its own territory concretely defined.

The ability to make a nursing diagnosis is dependent upon assessment skills and the ability to develop nursing intervention measures. The use of nursing diagnosis would result in a sharpening and refinement of these skills. Nursing diagnosis helps to organize the knowledge of nursing which is currently in a disorganized state (Henderson, 1978, p. 75).

Classification of nursing diagnoses is an excellent point for clinicians to begin using and refining terminology. Once nurses begin to describe the health problem they are treating, discussion about the best way to state the problem or to treat the problem will inevitably follow (Gordon, 1976, p. 1299).

Nursing diagnosis can be the initiator of nursing concern from the clinician's perspective. The use of nursing diagnosis would help nurses more effectively articulate that which is of concern to them, and once articulated, would provide the basis for generating solutions.

The core of the nursing diagnosis is scientific knowledge, essential to accomplish the diagnostic process correctly. As scientific accountability is essential for planning patient care, the use of nursing diagnosis is a step toward achieving scientific accountability based on scientific knowledge.

Nursing Diagnosis Differs from Medical Diagnosis

The nonacceptance and lack of use of nursing diagnosis in nursing practice prior to the 1970's could be attributed to the terminology which was disquieting for most nurses since diagnosing was limited to the realm of the physician. Today, with teachers, managers, social workers, and auto mechanics actively diagnosing, nursing is recognizing and accepting its potential for diagnostic skills. The difference in making a diagnosis arises from each individual practitioner's view of his role, behaviors, and responsibilities and from the knowledge necessary for the practice of their

profession (Durand & Prince, 1966, p. 51).

A diagnosis has been described as a tool which helps to identify basic difficulties as a means to judge the worth of importance of a concern, and as a process of measurement which is used to assess the presence, absence, or quality of certain objects, characteristics, functions, or events. (Bircher, 1975, p. 11)

There is a difference between nursing and medical diagnosis.

Nursing diagnosis differs from medical diagnosis in that medical diagnosis defines the patient problem in relation to a pathological condition while nurses' diagnosis focuses more on the patient response to the pathological condition. (Roy, 1975, p. 1024)

Nursing diagnosis indicates an impaired function of a body system, whereas, medical diagnosis focuses on defining underlying causes of the impairment. (Aspinal, 1976, p. 434)

Underlying these differences between the nursing diagnosis and medical diagnosis is the essential assumption that many health problems require a collaborative effort of physician and nurse. Given the complexity of human beings and their health problems, professional domains cannot have boundaries that are totally absolute and rigid (Gordon, 1976, p. 1300).

An example of the difference and yet the need for collaboration is demonstrated in the following example of the patient with a medical diagnosis of carcinoma of the bowel. The physician is concerned with treatment and management of the carcinoma, the nursing diagnosis would be concerned with the individual's anxiety level concerning the impending surgery, the impairment of skin integrity due to the colostomy and surgical intervention, the patient's perceived alteration in body image due to the colostomy, and the potential

alteration in nutritional status due to the colostomy. The patients' health care needs will not be met unless both professions intervene and offer the patient the skills of their profession in dealing with his disease process.

Nursing diagnosis differs from medical diagnosis in that medicine attends to the pathology, the disease, and is concerned with treatment of the disease's response to intervention. Nursing, viewing the person as a whole, is concerned with the human response to the stressors of the disease process. The nurse is interested in the strengths and weaknesses, resources or deficits of the patient's physiological, psychological, and sociological environment. The goal of nursing would be to recognize stressors and assist the patient with developing the most effective coping mechanism. Figure 4 demonstrates the significant difference between the medical diagnostic process and the nursing process.

Development of Nursing Diagnosis

The 1970's has seen an increase in activity and publicity concerning nursing diagnosis. The stimulation of interest may be a result of the incorporation of nursing diagnosis as the second standard in the American Nurses' Associations' standards of practice (Stevens, 1974, p. 16). It could also be attributed to the expanding role of nursing which is assuming more responsibility, even including that of making medical diagnosis (Henderson, 1978, p. 76). It could also be that the vagueness and confusion that surround the function, realm, and role of the nurse is being provided with a solution via the nursing diagnosis and nursing process. But whatever

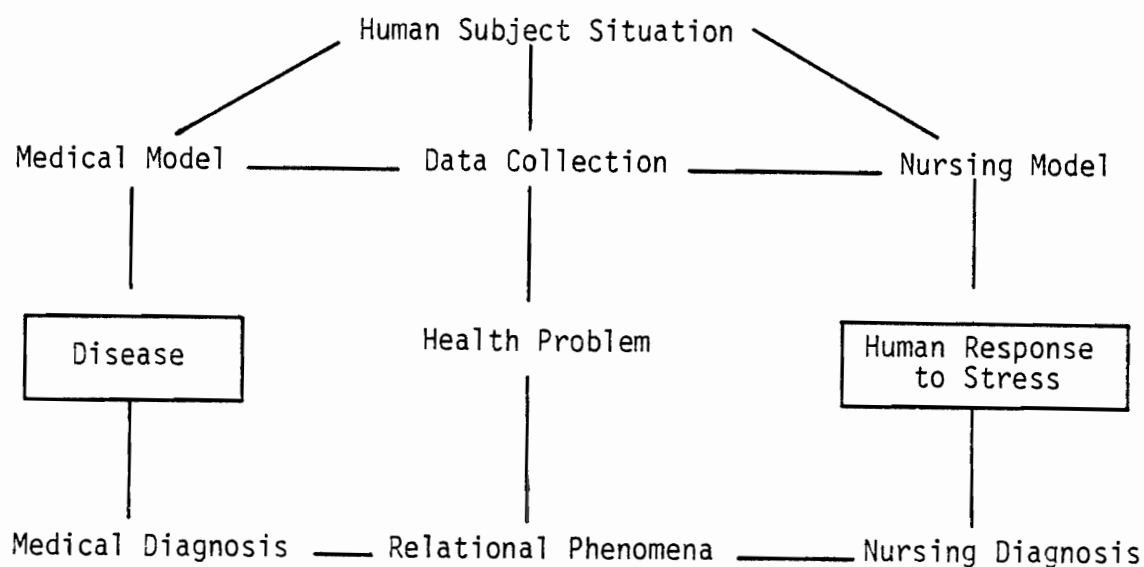


Figure 4. Medical vs. nursing diagnosis.

Note.--Reprinted from Nursing diagnosis: Theory and practice by Betty Henderson by permission of Aspen Systems Corporation, 1978.

the reason, nursing diagnosis is becoming a function of the nurse and the practitioner needs the opportunity for introduction, utilization, and further development of the concept in practice.

The National Conference on the Classification of Nursing Diagnosis has had the biggest impact on the development of nursing diagnosis. There have been three conferences to date and a fourth one was held in April, 1980. The initial conference of 1973, had as its aim: (1) to label and name all those health problems believed to be within the realm of nursing's prerogative to identify and for which nursing therapy might be prescribed, and (2) project a method of ordering the diagnosis into a classification system (Gebbie & Lavin, 1975, p. 7).

The second conference, held in March of 1975, besides further evaluating the classification system, had as its aims to: (1) determine further diagnostic categories, (2) refine those diagnoses already identified, and (3) define the characteristics of the diagnoses already validated by a chart review study (Gebbie & Lavin, 1976, p. 5). The proceedings of the third conference, held in 1978, have not yet reached publication.

These conferences to date have been unsuccessful in developing a classification system but they have generated 37 acceptable nursing diagnoses and 19 diagnoses that are tentative.

Major tasks in developing a nursing taxonomy are:

(1) selecting appropriate labels, (2) giving accurate and usable definitions, (3) selecting a logical basis for ordering which supports identification, and (4) getting approval and acceptance by target groups for whom the categorization is designed. (McKay, 1977, p. 223)

A taxonomy for nursing should: (1) represent a classification system which gives direction to the nursing process, (2) be logically consistent, (3) be consistent with existing theoretical positions in nursing, (4) be congruent with classification systems of other health professions in order to promote communication and acceptance, (5) be open and flexible so new information and alteration can be incorporated, and (6) allow for data storage and information retrieval (McKay, 1977, p. 224).

These conferences are considered successful even without the development to date of a classification system. The medical profession has taken 300 years to formulate the classification of medical diagnosis and nursing has only started its task (Gebbie & Lavin, 1974, p. 251). The success of the conferences is in the recognition of the need to define the nursing profession and the beginnings of an attempt to accomplish this task.

A major achievement for nursing diagnosis was accomplished by Claire Campbell in her book, Nursing Diagnosis and Intervention in Nursing Practice. The author intended this book to be a major resource for the clinician and student in planning patient care based on the use of the nursing process. In addition, Campbell's book provides an in-depth list of nursing diagnoses with specific nursing interventions. These nursing interventions are explicit and include a brief rationale for the intervention and a description of the resolution expected with the implementation of the selected intervention.

In addition, it provides a common basis of communication among nursing colleagues for the practice of nursing until

a standard nomenclature of nursing diagnosis can be developed. (Campbell, 1978, p. v.)

The classification conferences and Claire Campbell's book are the two major attempts to develop and disseminate into practice the concept of nursing diagnosis. Other authors have generated information on the nurses' ability to accomplish the diagnostic process and correctly identify the patient-nursing diagnosis.

Aspinall presented a case study to 187 nurses and asked them to identify the possible causes of a patient's loss of ability to process thought. These nurses were asked to list causes rather than nursing diagnoses because at that time, there was little understanding of the concept of nursing diagnosis. There were 12 possible causes of the patient's inability to process thoughts that were established by a panel of experts. The nurses identified one to nine possible causes with a mean of 3.44 (Aspinall, 1976, p. 435).

Overall, the results indicated that most of the nurses included in the study apparently lacked the theoretical knowledge of the problems that could be responsible for a physiological or psychological dysfunction and they lacked a strategy that would enable them to evaluate the clues described in a case study to focus on pertinent problems. (Aspinall, 1976, p. 436)

This study recognized that the effectiveness of the nursing interventions is dependent upon the accuracy of the nursing diagnosis or the identity of the possible causes of a problem. Therefore, the skills of diagnostic process must be learned, not assumed, to "fall" out of the experience of clinical practice.

Aspinall conducted another study to evaluate the use of a decision tree in improving diagnostic accuracy. For this experiment,

she took three groups of nurses and presented a case study to them asking that they identify the problems or nursing diagnosis for the patient. The groups were differentiated by Group A receiving only the case study; Group B receiving the case study and a list of 18 possible causes of change in behavior for the patient; and Group C receiving the case study, the list of causes, and a decision tree. The group utilizing the decision tree did show a significant improvement in their diagnostic ability and accuracy; but, the author concluded that more information should be collected before firm statements could be made. The use of a decision tree should be further studied as an aid to improve nursing accuracy in the diagnostic process (Aspinall, 1979, p. 184).

Marjory Gordon completed a study to assess the manner in which nurses select or eliminate hypotheses in the process of making a nursing diagnosis. The implication from this study is that the nurse used a predictive hypothesis as part of the diagnostic process. They retrieved the information necessary from memory. It was concluded that if this type of diagnostic process is utilized, it needs to be taught and that at present, nursing diagnosis and the diagnostic process are more a function of intuition and not education (Gordon, 1980, p. 44).

These studies have supported the fact that nurses are not educated or trained to approach patient problem identification in a systematic manner. They rely on past experience and recall of information from memory. This does not result in an assurance of accuracy or completeness of the problems nurses identify. The education of

nurses concerning nursing diagnosis and the diagnostic process is necessary if the nursing process is to be successful in practice as a method to identify patient problems and provide nursing intervention.

Nursing diagnosis is as fundamental to effective patient care as assessment and care planning. Unfortunately, while most nurses are confident of their abilities in assessment and intervention, they falter in the diagnostic phase. Nursing diagnosis is significant since the effectiveness of any nursing intervention hinges on the accuracy of the nursing diagnosis. (Aspinall, 1976, p. 436)

Nursing involves a diagnostic process, yet many students are not able to draw conclusions and make judgments about the observations they make. (Myers, 1973, p. 1230)

Summary

An unknown source provides a summary story of where nursing diagnosis is today and gives insight as to the potential it has for the nursing profession:

A teacher used to start his first class of each term by putting two figures on the blackboard: four and two.

'What's the solution?' he would ask.

A student would call out, 'six!' Another would say, 'Two.' Several would shout the final possibility, 'Eight.' And the teacher would shake his head. Finally, he would say, 'All of you failed to ask the key question: What is the problem? Unless you know what the problem is, you cannot possibly find the answer. Too much time is spent trying to solve the wrong problem-like polishing brass on a sinking ship.' (Source unknown)

Hypotheses

1. Those nurses who attend a workshop in the use of nursing diagnosis and the diagnostic process will differ from nurses who do not attend the workshop with respect to the number of patient problems they identify in the case

study which have significance for nursing intervention.

2. Those nurses who attend a workshop on the use of nursing diagnosis and the diagnostic process will differ from nurses who do not attend the workshop with respect to the number of nursing interventions they identify from the case study which are appropriate to previously identified nursing diagnosis and/or patient problems.

Assumptions

1. Nurses in clinical settings are not using nursing diagnosis or the other steps of the nursing process.

2. Nurses who have graduated from their basic nursing program within the last 10 years have knowledge concerning the nursing process.

3. Nurses are not using nursing diagnosis in their clinical practice perhaps because it has not been introduced into their practice in usable form.

4. Nurses are not using nursing diagnosis because it is not a universally adopted concept of clinical practice for the nurse.

5. Nurses are not doing a written care plan because there are no tools in the current repertoire of the nurse which simplify and make consistent the task of care planning.

Operational Definitions

Nursing Process: The problem solving approach to providing nursing care. The five steps to the nursing process are: assessment,

nursing diagnosis, planning, implementation, and evaluation.

Nursing Diagnosis: Nursing diagnosis is the identification of those patient problems or concerns most frequently identified by the nurse before they are recognized by other health care workers, and problems which are amenable to some intervention which is available in the present or potential scope of nursing practice. (Gebbie & Lavin, 1974, p. 250)

List of Nursing Diagnoses: The 37 accepted nursing diagnoses developed by the National Conference of the Classification of Nursing Diagnosis.

Diagnostic Process: "A process of collecting, clustering, weighing, and validating information" (Gordon, 1976, p.1300). Isolated signs and symptoms which are frequently identified in nursing care plans generally have little meaning and do not suggest intervention for the nurse. The combining and weighing of clues to the state of the patient results in an ability to identify one or more nursing diagnoses which then helps to determine the appropriate interventions for the individual.

Nursing Intervention: Knowledgeable and self-directed nursing therapy in the form of nursing activity directed at moving the individual toward his achievable good health.

Written Care Plan: A written care plan is the result of the nursing process. It is the current written personalized plan for the individual, indicating the problems (nursing diagnoses) that have been identified and the interventions that can best meet the patient's needs. It is currently more frequently used as a tool to note "Functional duties such as medications, treatments, monitoring of vital signs, intake and output, and diagnostic studies" (Ciuca, 1972, p.

710). To be of use to the professional nurse, the care plan should reflect less emphasis on the functional duties and more on the individual plan of care.

Panel of Expert Nursing Diagnoses: The panel of experts on nursing diagnoses was comprised of the investigator and the Chief of Nursing Service, VAMC. A nonavailability of qualified experts in nursing diagnoses in Salt Lake City necessitated a limited number of two persons for this panel. This panel had clinical as well as theoretical knowledge of the concept and use of the nursing process and nursing diagnoses.

Panel of Expert Clinical Experts: The panel of clinical experts consisted of two persons whose educational background was a B.S. degree. Each panel member had clinical nursing experience on medical-surgical wards and critical care hospital settings. Both members have functioned as staff nurses as well as charge nurses in these areas. Neither of the two members of the panel had ever utilized nursing diagnoses in their practice.

CHAPTER III

METHODOLOGY

Design

This study was experimental in nature, using a posttest only control group design as described in Campbell and Stanley (1978, p. 254). The control and two experimental groups were selected from a sample pool of nurses at the Veterans' Administration Medical Center (VAMC) in Salt Lake City, Utah using a table of random numbers.

The three groups were differentiated as follows: Group A was to consist of 20 to 25 nurses who received a four-hour workshop concerning the definition and utilization of nursing diagnosis and the diagnostic process as well as a list of the currently accepted nursing diagnoses. Group B was also to consist of 20 to 25 nurses. Group B was not to participate in the workshop pertaining to nursing diagnosis, but would receive a list of the accepted nursing diagnoses with their case study and would be able to use the list as a resource in identifying patient problems. Group C was to consist of 20 to 25 nurses and was designated as the control group. There would be no intervention on the part of the investigator when this group was presented with the case study (Figure 5).

All groups received the same instruction pertaining to the completion of the case study. They were requested to identify the patient's problems or the nursing diagnoses they would normally

		Nursing Diagnosis		Identification of Patient Problems
		Workshop	List	
Randomization	Group A	X	X	0
	Group B		X	0
	Group C			0

X = Treatment

0 = Measurement

Figure 5. Design of the study.

Note.--Adapted from Experimental and quasi-experimental designs for research by D. T. Campbell & J. C. Stanley. Chicago: Rand McNally and Company, 1978.

identify as being within the realm of nursing responsibility. Next, they were asked to plan nursing actions for each of the problems identified.

Once the workshop was presented to Group A, a case study of a patient that would be expected to be hospitalized in the Veterans' Hospital was presented to all the participants. The participants were asked to select the appropriate nursing diagnosis or patient problems from the case study assessment information. They were also asked to plan nursing interventions for each of the problems identified.

A tentative plan called for a time frame of two weeks in which to conduct the study: during the first week, the case study was presented to Groups B and C; during the second week, the four hour workshop was presented to Group A and after the workshop, Group A was requested to complete the case study.

In this study, Group A received a workshop on nursing diagnosis and the diagnostic process. In the workshop, they had the opportunity to identify nursing diagnoses utilizing the diagnostic process and to plan nursing interventions. When they received the case study, they also received a list of the accepted nursing diagnoses to use as a resource in identifying nursing diagnosis.

Group B received the case study and a list of accepted nursing diagnoses. The only information they received concerning the list was that they could use it as a resource in identifying patient problems. This group response gave some indication of the nurses' prior exposure to nursing diagnosis and their ability to

utilize it without benefit of the workshop. Nurses are not utilizing the concept of nursing diagnosis in the clinical setting, but it is assumed that they have prior knowledge of the concept via their educational preparation.

Group C received the case study only. There was no manipulation of this group by the investigator. Group C was the control group for purposes of this study.

The population sample pool was selected with an attempt to control for extraneous variables. Nurses selected were of similar educational preparation, had a minimum of one year clinical nursing experience, and were working in a similar hospital environment. Another method utilized in an attempt to control for variables was the use of random assignment of the population pool to the three study groups. By following the above protocol, the study met the conditions of a posttest only control group design.

Subjects

The sample pool consisted of 80 nurses from the Veterans' Administration Medical Center (VAMC) who had either an associate degree or baccalaureate degree in nursing science. This also included nurses who had a diploma and had subsequently obtained a baccalaureate or associate degree in nursing science.

Excluded from the sample pool were those nurses who had either a nursing diploma or an advanced degree in nursing. Nurses who are currently working toward degrees were also excluded. A comparison of differences, if any, between the two educational

preparations of nurses and the effect on the nurses' ability to identify patient problems and plan interventions were reviewed. It was assumed that baccalaureate nurses, regardless of exposure, would diagnose and plan intervention better.

Nurses in the sample pool had completed their basic education and training within the last 10 years. This was an attempt to control for a lack of exposure to the nursing process by those nurses whose educational preparation probably did not include the concept. It was assumed that most of the educational inclusion of the nursing process in curriculum has occurred within the last 10 years. The nurses were required to have a minimum of one year clinical experience to participate in the study.

From this population pool of 80 nurses, 25 nurses were randomly assigned to each of the three groups. A table of random numbers was used to make assignments to the groups. It was hoped that from the original number of 25 nurses assigned to each group, a minimum of 20 for each group would complete the study, for a total of 60 nurses.

The Chief, Director Nursing Services at the Veterans' Administration Medical Center (VAMC) cooperated directly with this investigator and was instrumental in assuring staff accessibility and availability for purposes of the study. Participation in the study by the staff nurses was on a volunteer basis.

Procedures

A period of two weeks was designated for the conduction of

the investigation. The first week was spent presenting the case study to the nurses assigned to Groups B and C. The second week was spent presenting the workshop on nursing diagnosis and the diagnostic process to Group A and having Group A complete the case study.

The nurses that were eligible for the study were those nurses who had completed their nursing education or training within the last 10 years. Their educational preparation was a baccalaureate or associate degree in nursing science. Nurses meeting these criteria were placed into a population pool of 80 nurses employed by the VAMC in Salt Lake City.

These 80 nurses were then assigned a number. Using these numbers and a table of random digits, the population of 80 nurses was randomly assigned to three groups. Selection of the population, randomization, and the design of the study were performed in order to assure the internal validity of the study.

The workshop was presented by the investigator. It was conducted a total of four times during the second week to assure attendance by as many of the participants assigned to Group A. It was initially anticipated that the workshop would be conducted on two separate occasions, a morning session and an evening session.

The timetable for the workshop was designed to be flexible to ensure attendance without affecting staffing patterns of the hospital. The workshop content was the same for every session. Attendees of the workshop were thus exposed to the same information. The procedure, course outline, and objectives for the four hour workshop are shown in Appendix E.

The case study was presented to Groups B and C during the first week. Again, the time for doing the case study was open for the convenience of the participants to enhance participation.

The same case study was presented to all the participants in the study. Participants were asked to identify nursing diagnoses and/or patient problems, then plan nursing interventions for each of the nursing diagnoses and/or patient problems identified.

The case study was a patient realistically simulated with a medical diagnosis common to the VAMC. Information provided in the case study was comprised of the nursing assessment as well as pertinent information that would be available to the nurse from the patient's chart at the time of admission. The case study was designed to be concise and clear in order to eliminate as many questions as possible (Appendix F).

Presentation of the case study to the three groups was consistent and uniformly done even though the participants were completing the case study responses at different times during the week.

Completion of the case study requirements performed by the participants was in a controlled environment. A classroom located in the VA Hospital was used and the investigator was present during this phase of the investigation. The participants were expected to complete the case study in the classroom and without discussion with the investigator or other participants. Points requiring clarification were answered by the investigator but nothing that identified variables of the study was discussed.

A time frame of one hour maximum was allotted for the completion of the case study portion of the investigation. Participants were allowed to leave the classroom upon completion of the case study as they desired, with no minimum time limit being imposed.

To establish content validity of the case study, it was planned to present the case study to two groups of nursing professionals. One group, considered experts in the use of nursing diagnosis, identified the nursing diagnoses and appropriate nursing interventions.

Clinical experts comprised the second group and were requested to identify the patient problems and then to plan interventions for the problems identified. Both groups met with the investigator after the data collection was complete in order to score the responses of the subjects.

The two groups of experts consisted of two people per group. A general lack of available personnel familiar with the use of nursing diagnosis limited the number of qualified experts.

Claire Campbells' book, Nursing Diagnosis and Interventions in Nursing Practice, was considered as a resource for nursing interventions.

All participants in the study were asked to complete a personal profile sheet. The information obtained from this sheet was utilized to test the randomness of groups and to give the investigator some general information about the participants and their preconceived ideas about the topics of interest (Appendix C).

After the completion of the study, the investigator was

available to present an in-service program for all the participants in the study, and anyone else interested, on the results of the investigation.

Data Analysis

The data were computed at The University of Utah Computer Center, using the Statistical Package for the Social Sciences program (SPSS) (Bent, 1978). First, descriptive information about the subjects in each group was generated. Next, frequency distributions for all nursing diagnoses, corresponding patient problems, and nursing interventions identified from the case study were computed. Finally, a scoring system was used to award points for correct identification of nursing diagnoses and/or patient problems, and for identification of appropriate nursing interventions. Differences between the groups with regard to the total number of points in each area (diagnosis and intervention) were measured by computing one-way analyses of variance. The level of confidence was set at .05.

Human Subjects' Consideration

The nursing staff of the VAMC in Salt Lake City was asked to voluntarily participate in the study. Any information obtained in the study was for the purpose of the study and did not violate the privacy of any individual who chose to participate. An informed consent was signed by each of the participants.

The case study used in the research project was developed from information on a simulated patient and not a real hospital patient.

Limitations

1. None of the hospitals in the Salt Lake Valley are currently implementing the concept of nursing diagnosis in nursing practice. This limits the number of experts in the local area available for consultation and validation of nursing diagnosis identified for the case study.

2. An exchange of information between the study groups remained a possible source of contamination (Hawthorne effect). An attempt to correct for this limitation was made by presenting the workshops and case study within a two-week period which limited the amount of time available for communication between the three groups. The workshop was scheduled for the second week of the study to decrease the chance of dissemination of information provided in the workshop to the other two groups in the study.

CHAPTER IV

RESULTS AND DISCUSSIONS

The purpose of this study was to determine the effect of the introduction and use of nursing diagnoses on patient problem identification by nurses. Nurses from the VAMC in Salt Lake City were randomly selected and assigned to three treatment groups. Group A, the experimental group, received a four-hour workshop on nursing diagnosis and the diagnostic process. They also had the list of currently accepted nursing diagnoses available to them to utilize as a reference in developing their patient problem list. Group B, also an experimental group, received a list of the currently accepted nursing diagnoses and was told to use it as a reference, if desired, in order to identify patient problems. Group C, the control group, received no intervention from the investigator.

From the original 80 nurses eligible for participation in the study, it was hoped there would be a total of 60 subjects, with 20 in each treatment group. There was minimal difficulty achieving participation in Groups B and C. These two groups were required to participate for a maximum of one hour. Participation in Group A was more difficult to achieve because of the time element involved in a four-hour workshop. As a result, the number in each of the three groups was as follows: Group A, 13 participants; Group B, 16 participants; and Group C, 19 participants.

The statistics utilized to evaluate these data were the Statistical Package for the Social Sciences (SPSS) descriptive statistics, the chi-square statistic, and the one-way analysis of variance (ANOVA).

Descriptive data were collected to identify characteristics of the subjects and to determine the appropriateness of the sampling technique for randomness. The mean, standard deviation, mode, and median were reported.

When interval or ratio data provided by the statistics were skewed in either a positive or negative direction, the median was used as a more accurate measure of central tendency. The median is not sensitive to extreme values, and because of this property, the median is the preferred index of central tendency when the data are skewed and when one is interested in finding atypical values (Polit & Hungler, 1978, p. 517).

The chi-square statistic was used to evaluate whether certain characteristics such as type of nursing program attended or staff position were randomly distributed throughout the groups for the nominal descriptive data. The investigator expected that the chi square statistic would not be significant, indicating that there was not a significant relationship between the groups and these characteristics or variables.

This study was designed to minimize the effect of extraneous variables on the outcome of the study so that manipulation of the experimental group would result in a difference in response when compared to the responses of the control group. In an experimental

design there are those characteristics that are desired: (1) manipulation of experimental group; (2) control group; (3) randomization of all subjects (Polit & Hungler, 1978, p. 173).

The chi-square statistic was utilized to determine that no relationship would be found between the group membership and certain selected variables prior to the manipulation of the experimental group.

The one-way analysis of variance (ANOVA) is a test statistic that is appropriate for use with two or more samples: ANOVA is used to test the significance of differences between means and because it can be used in studies with more than two groups, it was selected for use in this study with its three groups. "The one-way analysis of variance (ANOVA) is used for testing the hypothesis that two or more independent samples were drawn from populations having the same mean" (Roscoe, 1975, p. 292).

In reviewing the descriptive data, the following information was learned about the subjects. Ages of all the participants in the study ranged from 24 to 56 years, with the average age being 31.8 years ($SD = 7.48$). These data were positively skewed (2.01) with a median equalling 29.72 years. The composition of each group in regard to age was similar to that of the entire group (Table 1, Variable 1).

Beside the descriptive data on the age of participants a one-way analysis of variance statistic was also computed. The F ratio was .161, $p < .852$. This is not at the level of significance. This would mean that age would not be a factor of any differences between

Table 1
Descriptive Data
N = 48

Variable	Group	Mean	Standard Deviation	Mode	Median
Age	X	31.83	7.49	30.00	29.72
	A	31.85	7.86	30.00	29.67
	B	32.63	8.56	29.00	29.50
	C	31.16	6.56	28.00	30.00
Number of Years Since Graduation	X	5.90	2.64	7.00	6.17
	A	6.08	2.53	7.00	6.67
	B	5.13	2.75	7.00	5.00
	C	6.42	2.59	5.00	6.33
Number of Years of Clinical Experience	X	6.60	5.19	5.00	5.93
	A	6.62	3.45	7.00	6.63
	B	5.19	2.66	7.00	5.00
	C	7.79	7.29	6.00	6.00
Number of Years Employed Out-of-State	X	2.42	2.70	.00	2.38
	A	3.46	3.71	2.00	2.38
	B	1.44	2.13	.00	.50
	C	2.53	2.10	.00	2.13
Number of Years Employed at SLC VAMC	X	4.04	4.27	1.00	3.33
	A	2.08	1.89	1.00	1.31
	B	4.44	1.90	5.00	4.50
	C	5.05	6.19	1.00	3.36

Key: X = Entire Group (A+B+C) A = Experimental Group (Workshop + List)
 B = Experimental Group (List) C = Control Group

the three groups. No two groups were significantly different at the .05 level (Table 2, Variable 1).

Both men and women were eligible to participate in the study. The distribution of both sexes within the three groups was evaluated. There were 39 female and 9 male participants in the study. Table 3, Variable 4, shows the distribution of participants according to sex was even within the three groups.

The chi-square statistic for the distribution of sex within the groups was .163 ($p < .922$). This indicates that there was no relationship between the group's membership and the distribution of sex within the groups (Table 3, Variable 4).

Nurses who graduated from baccalaureate or associate degree nursing programs were eligible for participation in the study. Graduates of these two programs dominated the total number of nurses who were eligible for participation in the study from the population pool of VA hospital nurses. There was a minimal number of diploma and postgraduate nurses who met the other requirements for participation. These nurses were not considered eligible for study participation in order to decrease the number of extraneous variables that might have influenced the study results. Again, it was important to know if the three groups were equally composed to baccalaureate and associate degree nurses. There were 7 A.D. nurses participating in the study and 41 BS graduates. The distribution of the type of nursing program was fairly equal and is shown in Table 3, Variable 1.

The type of program attended, whether A.D. or B.S., has a chi-square value of 2.30 ($p < .317$). Therefore, there was no significant

Table 2
One-Way Analysis of Variance (ANOVA)
(N = 48)

Variable	Age	Years Since Graduation	Years of Clinical Experience	Time Employed Out-of-State (Years)	Years Employed At SLC VAH
F-Ratio	.161	1.097	1.097	2.147	2.065
P-Value	.852	3.43	.343	.129	.139
Significant Difference Between Groups	No	No	No	No	No

Table 3
Descriptive Data
(N = 48)

Variable	Group	A.D.	B.S.
Type of Nursing Program Completed	A	3	10
	B	3	13
	C	1	18
Chi-Square Value		=	2.301
Level of Significance		=	.317
Variable	Group	Utah	Other
State in Which Educational Program Attended	A	6	7
	B	12	4
	C	12	7
Chi-Square Value		=	2.552
Level of Significance		=	.279
Variable	Group	Utah	Other
State of Last Employment	A	7	6
	B	3	5
	C	6	9
Chi-Square Value		=	.742
Level of Significance		=	.6902
Variable	Group	Male	Female
Sex	A	2	11
	B	3	13
	C	4	15
Chi-Square Value		=	.163
Level of Significance		=	.922

Key: A = Experimental Group (Workshop + List)
 B = Experimental Group (List)
 C = Control Group

relationship between group membership and the type of nursing program attended.

The next characteristic that was of interest was whether the educational program was attended in Utah or in another state. Although it is assumed by the investigator that the nursing process is an integral part of most nursing curricula, the emphasis may vary from institution to institution, and from state to state. It would be beneficial to the randomness of the group distribution to have nurses with educational preparation from states other than Utah equally distributed within the three groups. Of the entire group, 30 nurses received their educational preparation in Utah and 18 attended schools in other states. The distribution within the three groups is similar with Group A being more equally divided than either Group B or Group C (Table 3, Variable 2).

Whether the nursing program was attended in the state of Utah or in another state had a chi-square value of 2.552 ($p < .279$). Again, this showed that there was no significant relationship between group membership and the state in which education was obtained.

To be eligible for participation in the study, nurses were required to have graduated from their respective nursing programs within the last 10 years. This time frame was established because it was believed by the investigator that the concept of nursing diagnosis has been incorporated into nursing education within the past 10 years. "The nursing process is very much an integral part of a nursing school's curriculum" (Sculco, 1978, p. 41).

The 1970s have seen an upsurge of activity and publicity regarding nursing diagnosis stimulated by nursing practice expanding to include diagnosis of medical problems, rating of nursing diagnosis as Standard II in American Association Standards of Practice and revision or amendments in state nurse practice acts which either emphasized nursing process or included diagnosis as a specific nursing responsibility. (Henderson, 1978, p. 76)

Therefore, participants in this study would have an equal opportunity for exposure to the nursing process in their educational preparation if all the participants had graduated within the last 10 years.

The range in number of years since graduation of the entire group was from 1 to 10 years, with the mean number of years being 5.90 ($SD = 2.64$). The composition of each of the three groups was similar to that of the entire group (Table 1, Variable 2).

The one-way analysis of variance measured the effect of years since graduation upon the various groups. The value of $F = 1.097$ and the $p < .343$. There was no significant difference between the three groups as a result of the number of years since the individual participants graduated from their respective nursing programs. No two of the groups were significantly different at the .05 level (Table 2, Variable 2).

It was thought by the investigator that the number of years of clinical experience might influence the skills of patient problem identification. This presumption is based on the premise that most practitioners of any profession improve whatever skills and expertise are required by that profession by repetition and experience gained through time.

The distribution within the three groups would preferably contain nurses with a minimum of one year of clinical experience as well as a maximum of 10 years experience. The number of years of clinical experience of the participants in this study ranged from 1 to 36 years. Those participants with more than 10 years of clinical experience had additional experience in ancillary nursing positions. The average number of years of clinical experience was 6.60 ($SD = 5.19$). These data were skewed in a positive direction (4.05) with the median equalling 5.93 years. Each of the groups were similar in the distribution of this variable to the entire group (Table 1, Variable 3). The ANOVA statistic was completed on the three groups to evaluate the clinical experience of the participants. The $F = 1.097$ with $p < .343$. This would indicate that any difference between the groups was not a result of years of clinical experience. No two groups were significantly different at the .05 level (Table 2, Variable 3).

Because there was the possibility that nurses employed in states other than Utah may have increased exposure and opportunity for utilization of the concepts of nursing process and nursing diagnosis, it was, therefore, of interest to know if the distribution of nurses employed in other states was equal within the three groups. The nursing process and specifically nursing diagnosis are not in practice in the Salt Lake hospitals. There is little evidence that the concept of nursing diagnosis is used by nurses in this VAMC. This was also noted by this investigator to be true in other hospitals within the Salt Lake Valley. The investigator had completed

clinical rotation through three other major hospitals and found no evidence of the concept of nursing diagnosis in practice. Proof of this is in the lack of patient problems/diagnoses identified by nurses on written care plans.

In reviewing the literature one meets a need for development of diagnostic expertise in nursing. For the nurse struggling to learn nursing diagnostic process, there is a paucity of models to emulate in clinical practice settings. (Fredette, 1979, p. 57)

It was of interest to know where the nurses were employed prior to their current VAMC employment. This was evaluated as to whether they were last employed in the state of Utah or in another state. Of the 48 participants in the study, 20 of them reported employment outside Utah and 28 reported employment in Utah as their last nursing employment. Table 3, Variable 3 shows that the breakdown of the three groups was equally distributed. Therefore, nurses who have been employed in other states and may have brought an additional amount of understanding of the concepts of nursing process and nursing diagnosis to the study were evenly distributed within the three groups.

The last state of employment, whether Utah or another state was evaluated with the chi-square statistic. The value was .742 ($p < .69$). Again, this would support the notion that there was no significant relationship between group membership and where the participants were last employed, in Utah or in another state.

The number of years these nurses were employed in other states may add an additional factor of interest for purposes of the

study. Twelve nurses in this study had never worked out of the State of Utah while one nurse had worked 15 years outside of Utah. The average number of years employed outside of Utah was 2.42 years ($SD = 2.70$). These data were positively skewed (1.75) with a median equalling 2.38 years. Again, the three groups were similar to the entire group (Table 1, Variable 4).

The ANOVA of the variable of how many years, if any, a nurse was employed outside the state of Utah had an F value of 2.147 with a p of $< .1287$. This was not at a level of significance and would support the fact that any difference between the three groups was not a result of how long nurses worked in other states. No two groups were significantly different at the .05 level (Table 2, Variable 4).

Another descriptive characteristic considered was the number of years the participants were employed at this VAMC. The investigator, through collaboration with the Director of Nursing Service, concurred that the nursing process, and specifically, nursing diagnosis, was not in current use within the clinical patient care areas. The investigator thought the number of years employed at this VAMC versus the number of years nurses were employed outside the VAMC, where they might have worked with nursing diagnoses, might have some effect on the participants' utilization of nursing diagnosis. Employment in other hospitals may increase exposure to the concept of nursing diagnosis and/or process. In this study, the range of years employed at this VAMC was 1 to 28 years. Those participants with greater than 10 years employment were in hospital positions as

ancillary nursing personnel. The average number of years of VAMC employment was 4.04 years ($\underline{SD} = 4.27$). There was a positive skew to these data (3.96) with a median equalling 3.33 years. As with earlier variables, the composition of the groups were comparable with the entire group (Table 1, Variable 5).

The ANOVA statistic on the variable was $\underline{F} = 2.065$ with a $\underline{p} < .139$. This would also indicate that the number of years employed at the VA hospital would not effect a difference in response of the participants in the three groups. No two groups were significantly different at the .05 level (Table 2, Variable 5).

There is a hierarchy of positions that nurses may occupy in the hospital setting. Depending upon the position occupied, the nurse's role may vary in patient care planning. The staff nurse assumes the major role of care planning by reason of direct contact over a longer period of time with the patient. Supervisors, on the other hand, have less direct contact with the patient and are less involved in patient care planning.

For purposes of this study it was of interest to know the position in the hierarchy that each subject occupied. The majority of nurses in each group were identified as staff nurses. The distribution of the other nurses in the groups was fairly even. The chi square statistic was 4.982 ($\underline{p} < .546$), which would indicate that there is no relationship between group membership and nursing positions that were held by the participants in this particular study (Table 4).

The various clinical settings place different demands on

Table 4
Clinical Position
(N = 48)

Variable	Group	Staff Nurse	Head Nurse	Supervisor	Other
Current Position on VAH Nursing Staff	A	11	0	1	1
	B	12	2	2	0
	C	16	2	0	1

Chi-Square Value = 4.982

Level of Significance = .546

patient care planning. Patient time in units varies, staffing numbers vary, and type of patient diseases may vary. Thus, clinical setting would have some influence on the nurse's skills, ability, and capability to complete patient care planning. The composition of the groups is presented in Table 5. The composition of each group is shown as related to the clinical nursing area. The chi-square value was 9.53 ($p < .8899$). This is supportive data that the groups are not dissimilar due to the clinical setting in which they work (Table 5).

Nursing journals are assumed to be a major source of information as to the current state of the art for the clinical nurse. It was, therefore, of interest to the investigator to know which journals were commonly read by study participants. There is an increasing amount of information available on the nursing process and nursing diagnosis, but is it available to the clinicians in the journals they read? For the nursing process, and, therefore, nursing diagnosis, to be successful, it must be employed consistently by the practicing clinical nurse. Without their support and development of the concept, it is doomed to failure. The majority of literature available on nursing process and nursing diagnosis is published in the American Journal of Nursing, Nursing Clinics of North America, a few nursing research journals, and supervisory and management journals.

The authors of articles on these topics are in education and administration (see References). Table 6 shows the frequency with nurses in the study reported reading or not reading certain

Table 5
Current Clinical Area
(N = 48)

Variable	Group	Surgery	Psych.	SICU	MICU	Medicine	Out- Patient	Float	Hemo- Dialysis	Admin.
Current Clinical Area of Work at VAH	A	2	2	0	1	5	1	0	0	2
	B	3	2	3	2	3	1	0	1	1
	C	5	2	1	2	4	1	1	2	1

Chi-Square Value = 9.532
Level of Significance = .8899

Key: A = Experimental Group (Workshop + List)
B = Experimental Group (List)
C = Control Group

Table 6
Journals Read
(N = 48)

Variable		Nursing				Heart	Neph-		Journal	Nursing	Journal	Nursing	Nursing	Supervisor	
Group	Response	'80	RN	AJN	NCNA	and Lung	rology Nurse	Geron- tology	of Geriatrics	Research	of Nursing Administration	Administration Quarterly	Outlook	Nurse	None
A	Yes	8	3	3	1	1	0	0	0	1	1	0	0	1	3
	No	5	10	10	12	12	13	13	13	12	12	13	13	12	10
B	Yes	12	3	6	0	2	1	1	0	1	0	1	1	0	1
	No	4	13	10	16	14	15	15	16	15	16	15	15	16	15
C	Yes	13	4	7	1	1	2	1	1	0	0	0	0	0	1
	No	6	15	12	18	18	17	18	18	19	19	19	19	19	19

Key: A = Experimental Group (Workshop + List)

B = Experimental Group (List)

C = Control Group

journals. The list of journals was developed from a study question which asked each of the participants to list the journals they used. There is an incongruence between those journals commonly read and those journals containing the majority of available information on the nursing process and nursing diagnosis, with the American Journal of Nursing perhaps the main exception. A concept that is not more effectively publicized will not be accepted nor utilized by the clinical nurse.

Four questions were asked of the participants which resulted in the description of the four following characteristics of interest. The first was "Are you familiar with the nursing process?"

The chi-square value was 1.628, $p < .922$. This would indicate there was no relationship between the three groups and their response to this question (Table 7, Variable 1). The majority of the participants reported being familiar with the concept. Of interest is that 9 nurses in a group of 48 are not familiar with a concept that is proposed to be such an integral part of nursing practice.

"Are you familiar with nursing diagnosis?" was the next question.

The chi-square value was 4.615, $p < .099$. This would indicate that there was no relationship between the three groups and their response to this question (Table 7, Variable 2). Again, the majority were familiar with the concept. Only six nurses reported not being familiar with the concept. These numbers are of interest because fewer people were aware of the nursing process than were

Table 7
 Questions Asked Concerning Concepts
 (N = 48)

Variable	Group	Yes	No
Number of Nurses Familiar with Concept of Nursing Process	A	11	2
	B	13	3
	C	15	4
	Chi-Square Value	= 1.628	
	Level of Significance	= $p < .922$	
Number of Nurses Familiar with Nursing Diagnosis	A	10	3
	B	13	3
	C	19	0
	Chi-Square Value	= 4.615	
	Level of Significance	= $p < .099$	
Number of Nurses Who Write Patient Care Plans	A	8	5
	B	15	1
	C	11	8
	Chi-Square Value	= 6.1504	
	Level of Significance	= $p < .0462$	
Number of Nurses Who Think Care Plans Are Valuable	A	9	4
	B	11	5
	C	10	9
	Chi-Square Value	= 1.307	
	Level of Significance	= $p < .5201$	

Key: A = Experimental Group (Workshop + List)
 B = Experimental Group (List)
 C = Control Group

aware of the nursing diagnosis. In other words, more people were aware of a part of the process versus the whole process. Does this give support to some of the confusion that may surround the clinician's perspective of the nursing process and its components?

Written nursing care plans are basically nonexistent in the clinical setting. The participants were asked if they wrote care plans.

The chi-square value was 6.1504, $p < .0402$. This is a significant value and would indicate that a relationship exists between groups and their response (Table 7, Variable 3). While the majority said they did, 14 of 48 reported they did not. The written plan of care is the end-product of the nursing process, though several nurses readily admit not writing them.

The next question asked was if they considered care plans of value to their practice.

The chi-square value was 1.307, $p < .5201$. This would indicate that there was no relationship between the three groups and their response to this question (Table 7, Variable 4). Again, the majority said "yes," but of interest were the 18 nurses who reported nursing care plans were not of value.

The information and tables provided in the above discussion gives a description of the groups. The distribution of the various characteristics within the groups further illustrates the randomness of the groups.

Randomization does not guarantee that all groups will be equal, but this technique is the most reliable method

for equating groups on all possible characteristics which would effect the outcome of the study. (Polit & Hungler, 1978, p. 173)

This would also support the finding that any difference between the groups in these responses would be a result of manipulation of the experimental group and comparison with the control group with the concepts of nursing process and nursing diagnosis (Polit & Hungler, 1978, p. 173). The above data would support the sampling technique as being random.

An identical case study was presented to all participants in the study (Appendix F). All of the subjects were given the same instructions when asked to identify problems that would normally be identified on a patient care plan that were pertinent to nursing. The participants were also asked to list the interventions for each of the problems that were identified. The following information is the descriptive data that was obtained and concerned with the participants' patient problem/diagnoses lists.

The evaluation and classification of the patient problem/diagnoses lists prepared by the participants in the study was a difficult task to achieve. The participants who were familiar with and utilized the concept of nursing diagnosis simplified the task because the terminology was the same. It was simply a matter of evaluating whether the diagnoses were present in the lists.

The difficult task was with the evaluation of the problems other than nursing diagnoses that were listed. Because there is not a common language to problems used in nursing, one problem may

have a variety of descriptions. An example was depression. Participants picked up the clues of loss of spouse resulting in patient's change in lifestyle, but they approached it from a variety of directions. Anorexia, lack of interest, unable to keep appointments (lack of interest), lonely, decreased motivation, decreased concern, poor socialization, and emotional distress were identified. These problems listed could be categorized under depression especially when the interventions that were listed were reviewed in conjunction with the problem.

Initially, the investigator worked with the panel of clinical experts to evaluate the list, but there was a problem with agreement as to the semantics and their meaning. The investigator, then, in an attempt to add consistency in the approach to the problem lists, went through the lists as objectively as feasible and categorized the problems under the various categories that were previously established as variables of interest. Although this approach may weaken the study by introducing the bias of the investigator, it was considered the most effective approach for purposes of this study. The decisions as to the intended meaning, whether or not appropriate, and whether or not significant, and all other subjective evaluation of the data, were made by the investigator.

The total numbers of problems identified by the 48 participants was 343. The number of problems identified by the individual participants ranged from 1 to 22. The average number of problems identified was 7.15 ($SD = 3.35$). These data were skewed in a positive direction (1.92) with the median equalling 6.50. The mean

number of problems identified by the three groups is described in Table 8, Variable 1.

The investigation also used the ANOVA statistic to determine differences between the groups' responses when they were asked to identify appropriate patient problems/diagnoses.

The number of problems identified by the participants was then evaluated. It was thought there would be a difference in the number of problems identified by the various groups, with the experimental Group A identifying fewer problems than Groups B or C by reason of a more organized and concise approach to problem identification. The range of the entire group was 21 problems/diagnoses identified. The range of Group A was 6, the range of Group B was also 6, and Group C had a range of 21 problems identified. The F ratio for the number of problems/diagnoses identified was a 2.2 with a $p < .1226$. There was not a significant difference between the groups as a result of the number of problems identified. No two groups were significantly different at the .05 level (Table 9, Variable 1). The number of problems identified shows no significant difference between the groups.

Of the problems identified, it was important to differentiate those that were significant for nursing versus those that were significant for other allied health care members. For example, an elevated white blood cell count is not significant for nursing intervention and was eliminated from the list of problems significant to nursing. Nurses should know the diagnostic significance of certain signs and symptoms so that accurate and meaningful reports can

Table 8
Hypotheses
(N = 48)

Variable	Group	Mean	Standard Deviation	Mode	Median
Number of Problems Identified	X	7.15	3.35	5.00	6.50
	A	5.54	1.90	5.00	5.13
	B	7.56	2.28	5.00	7.00
	C	7.90	4.47	5.00	7.00
Number of Problems Identified and Significant for Nursing	X	3.83	1.31	3.00	3.73
	A	3.92	1.12	5.00	4.13
	B	3.94	1.12	4.00	3.83
	C	3.68	1.60	3.00	3.31
Number of Interventions Listed	X	16.42	12.58	14.00	14.17
	A	10.62	3.99	8.00	9.75
	B	21.50	19.35	9.00	17.00
	C	16.11	6.54	13.00	16.00
Number of Interventions Listed and Significant for Nursing	X	15.15	12.52	8.00	13.50
	A	10.31	3.90	8.00	9.75
	B	20.56	19.72	8.00	17.00
	C	13.90	5.55	13.00	13.75

Key: X = Entire Group (A+B+C)
A = Experimental Group (Workshop + List)
B = Experimental Group (List)
C = Control Group

Table 9
Number and Significance of Problems and Interventions
(N = 48)

Variable	Number of Problems Identified	Number of Problems Significant for Nursing	Number of Interventions Listed	Number of Interventions Significant for Nursing
<u>F</u> -Ratio	2.200	.197	2.917	2.753
<u>P</u> -Value	.123	.822	.064	.075
Significant Difference Between Groups	No	No	No*	No*

*Trends of interest.

be given (Aspinall, 1977, p. 356). These signs and symptoms are the clues to the problem not the problem itself and, therefore, not significant when identified as an isolated problem.

Many times a diagnosis may be missed because all possibilities are not included in the differential process. It is important to consider all signs and factors. At the same time the nurse must place proper value on each sign or symptom. If she places emphasis on one or ignores another her accuracy in diagnosing will be lost. (Aspinall, 1977, p. 355)

Signs and symptoms are clues to be considered and evaluated but not focused on as a patient problem. As a rule, medical diagnoses, signs and symptoms, and problems that were mentioned redundantly within the list were eliminated from the list of patient problem/diagnoses significant for nursing. The medical diagnosis of diabetic keto-acidosis was left as significant as well as the signs and symptoms of anemia and dehydration as these were identified by the panel of clinical experts and their list of interventions placed significance on the nurses' role.

For all of the groups, the range of problems identified as being significant for nursing was one to eight. The average number of problems identified was 3.83 (SD = 1.31). The three groups were similar in the number of significant problems identified (Table 8, Variable 2).

The investigator evaluated the list of problems submitted by each of the participants. The problems identified were labeled as significant or insignificant for the patient in the case study. The problems that correlated with both panels of experts were considered significant. Problems that overlapped or signs and symptoms

that were appropriate although not considered a problem were also counted as appropriate. The F ratio was .197 with a $p < .8217$. These values indicated that there was no significant differences between the three groups and their ability to identify problems/ diagnoses significant for difference. No two of the groups were significantly different at the .05 level (Table 9, Variable 2).

Once a problem is identified, it is necessary for the nurse to plan interventions if the problem is to reach solution. The participants were asked to list interventions for each of the problems they identified and again it was mentioned to list those interventions significant for nursing. Interventions listed for the total problem list ranged from 1 to 80. The average number of interventions listed was 16.42 ($SD = 12.58$). These data were positively skewed (4.22) with a median equalling 14.17. All of the data available indicated similarity between the groups and their responses (Table 8, Variable 3).

The total number of interventions that the participants identified for their problem list was evaluated. Again, it was anticipated that the experimental Group A would identify fewer intervention by being more concise and organized in the care planning approach due to the workshop information. The $F = 2.917$, with a $p < .064$ (Table 9, Variable 3). While this value was not statistically significant showing there was no difference between the three groups and their responses, there appears to be a trend that is of support to the study by indicating some difference. Group A had a mean of 10.62 interventions identified, Group B had a mean of 21.5

interventions listed, and Group C had a mean of 16.42 interventions listed. This trend may give some support to the statement that the experimental group identified fewer interventions because of a more concise and organized approach.

Again, the significance of these interventions for nursing was evaluated by the investigator. The number of interventions that were appropriate for nursing was 15.15 (SD = 12.52). Again, the data were positively skewed (4.52) with a median of 13.50. A breakdown of the various groups is shown in Table 8, Variable 4.

The investigator reviewed each of the interventions listed by the participants to decide if they were appropriate for nursing. The $F = 2.75$ with a $p < .0745$ (Table 9, Variable 4). This statistic indicates that there was not a significant difference between the groups and their identifying appropriate interventions for nursing, but there was a trend of interest between the groups. Group A identified a mean of 10.38 significant interventions, Group B identified 20.56 significant interventions, and Group C identified 13.89 significant interventions. This was of interest because, again, on the average Group A, the experimental group, did identify fewer interventions, which would support conciseness on the part of the experimental group.

Because medical diagnoses, signs and symptoms, and redundant problems were eliminated in the significant list of problems, it was of interest to describe how many of the above variables were identified by nurses. The elimination of these variables was done because as problems for nurses, they are not as relevant or complete, nor do

they involve all the possibilities that were potentially present in the patient problem list. The signs and symptoms were self-limiting and often result in the redundancy that can be eliminated by a more concise problem identification.

In her book of nursing diagnoses, Clair Campbell labels as nursing diagnoses signs, symptoms and processes that have traditionally been within the medical prerogative. Many, including this investigator disagree with this practice (Gordon, 1979, p. 489). For example, a decrease in hematocrit, weakness, confusion, and constipation are all clues or significant symptoms that were identified as patient problems. These could have been more appropriately consolidated into the nursing diagnoses "alteration in nutritional state." "Clues are screened against different models of knowledge (anatomical, physiological), to arrive at diagnostic inferences" (Aspinall, 1977, p. 355). Nursing diagnoses helps to consolidate the problems nurses frequently identify into a more concise and organized nursing approach to the patient.

The list of problems/diagnoses that were identified by the participants were further evaluated by the investigator and the number of medical diagnoses, signs and/or symptoms, the number of repetitious or redundant, the number not appropriate to the case study, and the number of problems appropriate but not identified by clinical experts were evaluated. Medical diagnoses are significant to nursing but nursing can and must break down the medical diagnosis into the appropriate nursing components.

A medical diagnosis defines the patient problem in relation to a pathological condition while the nurse's focus is more on the person's responses to the pathological condition. (Roy, 1975, p. 1024)

This develops a collaborative relationship between the physician and nurse, not a dependent one.

Problems that were classified as medical diagnosis ranged from 32 nurses who listed no medical diagnoses to 6 nurses who listed three medical diagnoses. An average of .60 ($SD = .96$) problems identified by participants were, in fact, medical diagnoses. These data were positively skewed (1.34) with a median equalling .25. Further comparison of the group response is found in Table 10, Variable 1. Of interest to the investigator is a definite trend shown between Groups A, B, and C. Group A identified an average of .15 medical diagnoses; Group B, 0.56; Group C, 0.95. The experimental group identified fewer medical diagnoses on the average.

It was expected that of the three groups, Group A would identify few, if any, medical diagnoses and that they would identify nursing diagnoses instead. It was further assumed that Group C would identify more medical diagnoses since it is common practice to list medical diagnoses in nursing care plans as patient problems. The ANOVA $F = 2.859$ with a $p < .0678$ (Table 11, Variable 1). This would indicate that there was no statistically significant score to support a difference between the three groups and their responses. Though there was no statistical strength, there was a trend that would indicate some difference between the groups.

Signs and symptoms are frequently identified by nurses as

Table 10
Composition of Problems Identified
(N = 48)

Variable	Group	Mean	Standard Deviation	Mode	Median
Number of Medical Diagnoses Identified	X	.60	.96	.00	.25
	A	.15	.38	.00	.09
	B	.56	.96	.00	.23
	C	.95	1.13	.00	.45
Number of Signs and/or Symptoms Identified	X	1.85	2.25	.00	1.12
	A	.46	.52	.00	.43
	B	1.56	1.63	.00	1.25
	C	3.05	2.80	.00	2.67
Number of Problems Considered Redundant	X	.44	.62	.00	.30
	A	.15	.38	.00	.09
	B	.69	.70	.00	.64
	C	.42	.61	.00	.29
Number of Problems Not Appropriate to Case Study	X	.88	1.21	.00	.46
	A	.62	.96	.00	.31
	B	1.25	1.48	.00	.75
	C	.74	1.10	.00	.45
Number of Problems Appropriate But Not Identified by Expert Panels	X	1.02	1.02	.00	.86
	A	1.30	1.03	1.00	1.20
	B	1.06	.93	1.00	1.00
	C	.79	1.08	.00	.36

Key: X = Entire Group (A+B+C) B = Experimental Group (List)
A = Experimental Group (Workshop + List) C = Control Group

Table 11
Types of Problems Commonly Identified
(N = 48)

Variables	Number of Medical Diagnoses Identified	Number of Signs and/or Symptoms Identified	Number of Problems Redundant	Number of Problems Not Appropriate to Case Study	Number of Problems Appropriate But Not Identified By Expert Panels
F-Ratio	2.859	6.582	2.928	1.194	1.015
P-Value	.068	.003	.064	.3125	.3705
Significant Difference Between Groups	No*	Yes Groups A-C	No*	No	No

*Trends of interest.

problems but these often limit the perspective and narrow the focus of nurses to the overall patient problems. The range of participants who identified signs and symptoms was 16 nurses who identified zero to one nurse who identified 10. The average number of signs and symptoms identified by the entire group was 1.85 ($SD = 2.25$). These data were positively skewed (1.69) with a median equalling 1.12. Again, the trend between these groups was of interest. Group A identified on the average .46 signs or symptoms, Group B identified 1.56, and Group C identified 3.05 (Table 10, Variable 2). Again, Group A identified fewer signs and symptoms on the average. Signs and/or symptoms are descriptive of a disease process and focus on a single entity. The use of signs and symptoms as clues to identify the problem or rationale to support the problem is appropriate, but the use of a sign or symptom as a problem is self-limiting to other clues presented by the patient. It was assumed that Group A would identify few, if any, signs or symptoms as a patient problem/diagnosis, whereas Group C would be expected to identify signs and symptoms. The ANOVA F ratio was 6.58 with a $p < .0031$ (Table 11, Variable 2). This result indicates there was a significant difference between the groups as pertains to identifying signs and/or symptoms as a patient problem/diagnosis. The Scheffe procedure was done to evaluate between which groups the significant differences existed. The Scheffe F statistic was 3.58 for this variable. The Scheffe value between Groups A and C was 6.333, making the difference between Groups A and C significant. The values for differences between Groups A and B, and B and C were not significant.

This supports the assumption that the use of nursing diagnosis decreases the use of a sign or symptom for a patient problem/diagnosis.

Vagueness or redundancy in problem identification often results in an overwhelmingly bulky problem list that is difficult to handle and discourages the nurse from venturing further into the remaining steps of the nursing process. The range of the entire group in the area of redundancy of the problem lists was 30 participants who did not overlap within their problem list and six nurses who demonstrated redundancy of problems on three separate items. The average number of redundant problems identified was .44 ($SD = .62$). These data were positively skewed (1.104) with a median equalling .30. A further breakdown of the three groups can be seen in Table 10, Variable 3.

An example of redundancy of patient problems in the list was the participant who identified dehydration and concentrated urine as separate problems with similar interventions, or the participant who identified skin care and decubitus care with separate intervention. Both of these examples could have been consolidated into a single problem with a specific plan of individualized care. Again it was assumed that the experimental group would be less repetitive in the problem list, whereas Group C, the control group participants would tend to be repetitive. The ANOVA F ratio was 2.928 with a $p < .0638$ (Table 11, Variable 3). There was a trend of difference between the groups, but it was not a significant level. There was not a significant difference between the three groups in their repetitiveness of patient problem/diagnosis identification.

Some of the problems/diagnoses identified were not judged appropriate to the case study by the investigator from the information that was available to the participants in the case study. The range of inappropriate problems identified was from zero, listed by 25 nurses, to four, listed by three nurses. The average number of inappropriate problems identified by the entire group was .88 ($SD = 1.21$). Again, these data were positively skewed (1.44) with a median equalling .46. Table 10, Variable 4 shows the comparison to be equal between the groups.

Examples of inappropriate problems were decreased mental ability, loss of memory, and eye care to prevent further visual disturbance. These problems were not significant to the current state of the patient, but were significant clues during the acute phase of ketoacidosis. The F ratio was 1.194 with a $p < .3125$ (Table 11, Variable 4). This indicates that there was not a significant difference between the groups and the responses that were not considered appropriate to the case study.

As the investigator was reviewing the list of problems identified by the participants, it became apparent that several problems consistently identified and considered appropriate by the participants were not identified by either panel of experts. Altered mobility was such an example. Although further assessment would be necessary to confirm the mobility problem, it was considered significant by many of the participants and also by the investigator. The range of problems identified by nurses but not identified by the experts was from zero, identified by 19 nurses to three, identified

by five nurses. The average number of identified by the entire group was 1.02 (\underline{SD} = 1.02) (Table 10, Variable 5).

The \underline{F} ratio was 1.015 with a \underline{p} < .3705. This would indicate that there was no difference between the groups and their identification of problems that were not identified by the panels of experts (Table 11, Variable 5).

The same case study that was presented to the participants in the study was presented to two panels of experts. One panel was considered expert in the use of nursing diagnosis, and the other panel was considered clinically expert in patient care planning but was not familiar with the use of nursing diagnosis.

The nursing diagnoses listed by the panel experts on nursing diagnosis were examined first. This panel of experts identified five nursing diagnoses considered appropriate for the case study. These problems were not prioritized by either the panels of experts or the participants. The five nursing diagnoses listed by the panel of experts were: (1) alteration in ability to perform self care; (2) alteration in skin integrity; (3) noncompliance; (4) grieving; (5) alteration in nutritional state, less than.

Alteration in the ability to perform self care was the first diagnosis examined. There was not a significant relationship between group membership and their ability to identify this nursing diagnosis. The chi-square value was 3.93 (\underline{p} < .14) (Table 12, Variable 1).

The second nursing diagnosis that was examined in relation to the three groups was that of alteration in skin integrity. The chi-square value was .51 with a level of significance at the .77 level,

Table 12
Problems Identified by Experts of Nursing Diagnosis
(N = 48)

Variable	Alteration In Ability to Perform Self-Care		Alteration In Skin Integrity		Noncompliance		Grieving		Alteration In Nutritional State (Less Than)	
	ID	Not ID	ID	Not ID	ID	Not ID	ID	Not Id	ID	Not ID
Group A	9	4	10	3	7	6	12	1	5	8
Group B	6	10	11	5	7	9	8	8	12	4
Group C	7	12	15	4	8	11	2	17	8	11
Chi-Square Value	3.9328		.5169		.4705		20.9620		5.0915	
Level of Significance	.1400		.7723		.7904		.00001		.0784	
Significant Relationship Between Groups	No		No		No		Yes		No*	

Key: ID = Identified
 * = Trend
 A = Experimental Group (Workshop + List)
 B = Experimental Group (List)
 C = Control Group

indicating no significant relationship between identification of the problem and group membership (Table 12, Variable 2).

Noncompliance was the third diagnosis examined. Again, the relationship between group membership and identification of this nursing diagnosis was not significant. The chi-square value was .47 with a level of significance at .79. Table 12, Variable 3 shows the composition of those in the three groups who did identify the diagnosis and those who did not.

Grieving was the next nursing diagnosis that was examined. A significant relationship between the identification of this diagnosis and group membership was determined. The chi square statistic was 20.96 with a level of significance at the .00001 level. Twelve participants in Group A identified grieving as a patient problem; in Group B, eight identified it; and, in Group C, only two participants identified this problem. Grieving was considered by the panel of experts on nursing diagnosis as the underlying problem in the case study and required nursing intervention (Table 12, Variable 4).

The next nursing diagnosis was alteration in nutritional state. There was not a significant relationship between group membership and the recognition of this diagnosis. The chi square value was 5.09 with a level of significance at the 0.08 level (Table 12, Variable 5).

The next characteristic of interest was the concurrence by the panel of experts on nursing diagnosis with the participants in the study. The range of participants' responses that concurred with the panel of experts, was 12 nurses who identified no nursing

diagnoses to 10 nurses who agreed with the panel of experts on four problems. The average number of diagnoses that concurred among the entire group was 1.85 ($SD = 1.5$). Table 13, Variable 1, shows the comparison of the groups. Of interest was the trend between the groups. Group A concurred with the experts on an average of 3.15 times; Group B, 1.88; and Group C, 0.95 (Table 13, Variable 1).

Again, the factor that may have influenced this trend was the manipulation of the experimental group with the workshop. It was felt that those in the experimental group would concur with the panel of experts on nursing diagnosis. The F ratio was 12.367 with a $p < .0001$ (Table 14, Variable 1). This indicated that there was a significant difference between the groups and their concurrence with the panel of experts. The Scheffe procedure was performed to ascertain which groups differed significantly. The Scheffe F statistic was 3.58. The difference between Groups A and B was 3.85 which is a significant difference. The difference between Groups B and C was 2.46 which was not a significant difference. The difference between A and C was 12.36, which was highly significant. It was, therefore, indicative that Group A differed from Groups B and C, and concurred closely with the panel of experts on nursing diagnosis.

The next characteristics that were examined were the problems identified by the panel of clinical experts who were not familiar with the use of nursing diagnosis. The panel of clinical experts identified seven patient problems they felt were appropriate to the case study. Those seven problems were: (1) dehydration, (2) malnutrition, (3) anemia, (4) depression, (5) diabetic ketoacidosis,

Table 13
Concurrence with Panel of Experts of Problems Identified
(N = 48)

Variable	Group	Mean	Standard Deviation	Mode	Median
Number of Problems Identified That Concurred with Panel of Nursing Diagnosis Experts	X	1.85	1.50	.00	1.64
	A	3.15	1.14	4.00	3.57
	B	1.88	1.46	1.00	1.50
	C	.95	1.08	.00	.63
Number of Problems Identified That Concurred with Clinical Experts	X	1.02	1.31	.00	.50
	A	.00	.00	.00	.00
	B	1.25	1.53	.00	.50
	C	1.53	1.22	1.00	1.31

Key: X = Entire Group (A+B+C)
 A = Experimental Group (Workshop + List)
 B = Experimental Group (List)
 C = Control Group

Table 14
Concurrence of Participants with Experts
(N = 48)

Variable	Number of Problems That Concur with Nursing Diagnosis Experts	Number of Problems That Concur with Clinical Experts
<u>F</u> -Ratio	12.367	7.013
<u>P</u> -Value	.0001	.0022
Significant Differences Between Groups	Yes Groups A-B Groups B-C	Yes Groups A-B Groups A-C

Key: A = Experimental Group (workshop and list)
B = Experimental Group (list)
C = Control Group

(6) lack of education, and (7) infectious process.

The first problem evaluated was that of dehydration. No significant relationship was found between the identification of this patient problem and group membership. The chi-square statistic value was 1.49 with a level of significance at .47 (Table 15, Variable 1).

The second problem that was identified was that of malnutrition. There was a significant relationship between identification of malnutrition as a patient problem and group membership. Participants in Groups A and B who identified alteration in nutritional state (nursing diagnosis) were not included as identifying malnutrition and this may explain the significance of this relationship.

The reason the two were separated by the investigator was to assure distinction between the use of a nursing diagnosis once the use of other terms for patient problem identification. The chi-square value was 5.99, the level of significance was 0.05 (Table 15, Variable 2).

Anemia was recognized by the clinical experts as a patient problem. The identification of this problem was significant from the clues of low hemotocrit and dehydration. This problem was not detected by the panel of experts in nursing diagnosis and was recognized by only a few of the participants. The relationship between occurrence of this response and membership in a particular group was not significant. The chi-square value was 3.185 with a level of significance at .203 (Table 15, Variable 3).

Table 15
Problems Identified by Clinical Experts
(N = 48)

Variable	<u>Dehydration</u>		<u>Malnutrition</u>		<u>Anemia</u>		<u>Depression</u>		<u>Diabetic Ketoacidosis</u>		<u>Lack of Education</u>		<u>Infectious Process</u>	
	ID	Not ID	ID	Not ID	ID	Not ID	ID	Not ID	ID	Not ID	ID	Not ID	ID	Not ID
Group A	6	7	0	13	0	13	0	13	2	11	0	13	0	13
Group B	4	12	4	12	0	16	5	11	4	12	3	13	3	13
Group C	6	13	7	12	2	17	11	8	11	8	3	16	3	16
Chi-Square Value	1.4879		5.9899		3.1854		11.6891		7.2368		2.6165		2.1738	
Level of Significance	.4752		.0500		.2034		.0029		.0268		.2703		.3373	
Significant Relationship Between Groups	No		Yes		No		Yes		Yes		No		No	

Key: A = Experimental Group (Workshop + List)
 B = Experimental Group (List)
 C = Control Group

Depression was the next problem identified. The relationship of this problem and group membership was significant, but again those participants who identified grieving were not included in the count of those who identified depression and this may result in the significance of the relationship. The chi-square value was 11.689 with a level of significance of .0029 (Table 15, Variable 4).

Diabetic ketoacidosis, although a medical diagnosis, was also identified by the panel of clinical experts. There was a significant relationship between identification of this variable and group membership. Group A, the experimental group, was less likely to identify a medical diagnosis, whereas Group C, the control group, did identify this medical diagnosis. Group B, with a list of nursing diagnosis, did not identify the medical diagnosis as frequently as Group C. The chi-square value was 7.237 with a level of significance of .027 (Table 15, Variable 5).

Lack of education was identified by the clinical experts as an appropriate patient problem for this case study. The panel of nursing diagnosis experts identified noncompliance rather than lack of education. Again, those participants who identified noncompliance were not counted as identifying lack of education. The relationship between group membership and recognition of this problem was not significant. The chi-square value was 2.617 with a level of significance at 0.2703 (Table 15, Variable 6).

Infectious process was identified by the panel of clinical experts based on the clues of increased white blood cell count and the break in skin integrity. The participants in this study did not

identify the infectious process but focused more on break in skin integrity. The chi-square value was 2.17 with a level of significance at .337 (Table 15, Variable 7). An important characteristic that was examined was how the participants concurred with these panels of experts. The range of problems that were identified by nurses that were also identified by the clinically expert panel was 24 responses by nurses who did not agree with any of the experts' problem list, to one nurse who concurred with five of the expert problems. Those participants who identified nursing diagnosis specifically were not counted as concurring with this panel even though the problems could be considered the same or similar in wording. An example would be if the participant identified "alteration in nutrition." This was not considered to be concurring with the panels' problem of malnutrition. The average number of problems listed by the entire group that did concur with this panel of experts was 1.02 ($SD = 1.31$). These data were positively skewed with a median equalling 0.50. Table 13, Variable 2 shows a comparison of the three groups. Of interest was the trend whereby Group A concurred with the clinical experts on an average of 0.00, Group B averaged 1.25, and Group C, 1.53 (Table 13, Variable 2). It would be expected that because of the manipulation of the experimental group with a workshop on nursing diagnosis, that they would be less likely to identify problems in concurrence with the clinical experts. The ANOVA F ratio was 7.013 with a $p < .0022$ (Table 14, Variable 2). This indicated a significant difference between groups that their concurrence existed. The Scheffe procedure was computed to indicate

which groups differed. There was a significant difference between Groups A and B (4.08) and between Groups A and C (6.55). It would be expected that Group A would not concur with the panel of clinical experts as was indicated by the statistic.

Hypothesis Testing

The hypothesis that those nurses who attended a workshop in the use of nursing diagnosis and the diagnostic process would differ from nurses who did not attend the workshop with respect to the number of patient problems they identify in the case study which have significance for nursing intervention was tested.

Descriptive data of the information concerning this hypothesis is in Table 5. There was not a significant difference between the three study groups and the number of problems identified. However, there was a trend that supported the hypothesis that there would be a difference between the three groups. The total mean of all three groups combined was 7.15 ($SD = 3.35$). Group A, the experimental group that received the workshop, identified on the average 5.54 ($SD = 1.90$) patient problems. This was less than in Group B, also an experimental group, that received only a list of the currently accepted nursing diagnoses. It was assumed by the investigator that although nurses in the clinical setting were not utilizing nursing diagnosis, they were probably at least familiar with the concept from their journals or educational experiences, and that the list might increase recall and thereby use of the concept in the problem identification of the case study.

Group B identified on the average 7.56 ($SD = 2.28$) problems for the case study. The average was more than Group A, but less than Group C, the control group. The control group, receiving no intervention, identified 7.90 ($SD = 4.47$) problems. This group identified the largest number of problems with the highest standard deviation.

The one-way analysis of variance identified that there was no statistically significant difference between the number of problems identified by the groups. The F ratio was 2.200 ($p < .123$). This lack of significance does not support the hypothesis that the participants who receive a workshop in nursing diagnosis will differ from those participants who did not receive a workshop in the number of problems they will identify.

The second aspect of the hypothesis was whether the problems identified were significant for nursing. The entire group averaged 3.83 ($SD = 1.31$) problems that were significant for nursing from the list of problems identified. Group A identified 3.92 ($SD = 1.12$) which was more than Group C. Group B identified 3.94 problems ($SD = 1.12$) which was more than Group A. Control Group C identified fewer problems that were significant for nursing mean 3.68 ($SD = 1.60$).

Again, the ANOVA did not support the difference between the three groups as being significant. The F ratio was .197 ($p < .822$). The hypothesis was not supported by the data, therefore, the workshop did not significantly affect the identification of problems that were significant for nursing.

Two panels of experts were asked to review the case study in

order to set standards for comparison. One panel identified the nursing diagnosis, while the other group identified patient problems, worded as they usually word problems for nursing care plans. The concurrence between the panels of experts and the three study groups was then evaluated. It was assumed by the investigator that those participants who attended the workshop, Group A, would have a greater concurrence with the panel of expert's nursing diagnoses than the control group, Group C, and also more than Group B who had only a list of nursing diagnoses. The concurrence was proven at a statistically significant level, $F = 12.367$ ($p < .0001$). Group A identified an average of 3.15 ($SD = 1.14$) problems that concurred with the panel of experts. Neither Group B or C concurred with either panel of experts with this degree of consistency, see Table 7 and Table 8). This concurrence by experts and clinicians would support that a common language for identifying patient problems would result in a more common list of patient problems identified by nurses for the same patient.

Another characteristic that was evaluated and was of interest to the study was the type of problems identified by the various groups. It was assumed that the use of nursing diagnoses would decrease the usage of medical diagnoses, signs and symptoms, and redundancy of problem identification. The number of signs or symptoms identified was the only statistically significant difference between the groups in reviewing these characteristics, but again there was a trend that gave support to the assumption that the workshop did affect the type of problems identified. The participants

who received the workshop identified on the average .15 ($\underline{SD} = 0.38$) medical diagnoses, whereas the control group, Group C, identified .95 ($\underline{SD} = 1.13$) medical diagnoses, with Group B identifying .56 ($\underline{SD} = .96$) medical diagnoses.

Group A, the experimental group, identified only 0.46 ($\underline{SD} = 0.52$) signs or symptoms while Group C, the control group, identified 3.05 ($\underline{SD} = 2.80$). Again Group B was between the two with the numbers of signs or symptoms 1.56 ($\underline{SD} = 1.63$).

The number of redundant problems was not as indicative a trend for support of the effect of the workshop. Group A had a redundancy figure of .15 ($\underline{SD} = .38$) while the score for Group C was .42 ($\underline{SD} = 0.61$). Group B identified more redundant problems than both the experimental and control groups with .69 ($\underline{SD} = .70$) redundant problems.

This descriptive information supports the effectiveness of a four-hour workshop on the concept of nursing diagnosis which can then initiate a common language with a greater incidence of concurrence between nurses. It also decreases the use of extraneous and often non-nursing problems and assists nurses to identify more nursing-directed problems.

The second hypothesis of this study was that those participants who attended the workshop on nursing diagnosis and the diagnostic process would differ from participants who did not attend the workshop with respect to the number of nursing interventions identified from the case study and which were appropriate to previously identified patient problems or nursing diagnoses.

The number of interventions listed for the problem list averaged 16.42 (SD = 12.58) for the entire group. The breakdown into three groups showed no statistically significant difference between the three groups and the number of interventions identified, but again, there was a trend that indicated a difference may indeed be present. Group A, the experimental group, identified 10.62 (SD = 3.59) interventions. This was the fewest number of interventions identified by any of the three groups. Group B identified on the average of 21.5 (SD = 19.35) interventions for the problem list. Group C listed 16.11 (SD = 6.54) interventions. Group A, again was more concise in planning their nursing interventions.

The next point of interest was of those interventions listed, how many were significant for, or directed by, nurses. Again, the difference in responses by the three groups was not statistically significant, but there was a trend that supported the hypothesis that a difference existed. The F ratio was 2.753 ($p < .075$). Group A identified 10.62 interventions and 10.31 were significant. Group B identified 21.5 interventions with 20.56 (SD = 19.72) considered significant. Group C identified 16.11 with 13.90 (SD = 5.55) considered significant. Groups A and B correlated more closely with the number of interventions and their significance than did the control Group C.

Neither of the two hypotheses were statistically supported by the data, but there were trends that supported the fact that the

workshop did indeed affect the number of problems and interventions identified and their significance for nursing.

CHAPTER V

SUMMARY

The purpose of this study was to evaluate the effect of the introduction of nursing diagnosis and the diagnostic process on nurses and their skills in patient care planning. The aspect of the care plan that was evaluated was patient problem identification and the interventions for the problems identified.

For purposes of this study, a randomly selected group of nurses meeting certain criteria were divided into three groups. Group A, with 13 participants, was the experimental group and received a four-hour workshop in nursing diagnosis and the diagnostic process. They also received a list of the currently accepted nursing diagnoses to use as a reference when they were developing their problem list from the case study.

Group B, also an experimental group, received a list of the currently accepted nursing diagnoses and could utilize the list as a resource, if they desired, in identifying the patient problem/intervention lists. This was the only manipulation this group received. It was of interest to the study to evaluate the effect of a concept that may be known but not utilized in clinical practice and see if only the effect of a list could initiate an effect on the patient problem list.

Group C, the control group, received no manipulation by the investigator.

The three characteristics--randomness of the subjects, a control group, and manipulation of the experimental group--provided an experimental design to the study.

In addition to the manipulation by the investigator, participants in the study all received an identical case study and were given the same instructions concerning the task. They were to read the case study, which was designed to have all the information they would normally have available when they wrote a care plan, and to make a list of all the problems/nursing diagnoses that they would normally identify in a care plan that were of interest or concern to nursing. Then, for each of the problems or diagnoses identified, they were to list the intervention that as nurses they would accomplish. These two lists provided data for evaluation and the effect of the introduction of nursing diagnosis and the diagnostic process on the responses by the three groups.

A questionnaire was also provided and each of the participants were asked to complete it for some general, descriptive information (Appendix C). The responses on the questionnaire supported the randomness of selection of the participants by showing that certain characteristics that could influence participant responses were evenly distributed throughout the three groups and would, therefore, not adversely influence study results. Other information was of general interest to the study and was described in the statistical information.

The same case study that was given to the study participants was also given to two panels of designated experts, one panel in the field of nursing diagnoses and the other panel as clinically expert but not familiar with the concept of nursing diagnosis and its use. These two panels formulated two lists of patient problems/diagnoses and interventions. The list of the panel of experts was used to categorize the raw data provided by the participants in the study. Those problems/interventions that concurred with the experts were considered significant.

There were exceptions to this categorization of the list. Participants in the study consistently described certain problems that they considered significant but these were not identified by the panel of experts. These problems were categorized into a separate characteristic and further described in the data.

The lists of problems/diagnoses and interventions were categorized into various characteristics by the investigator. As stated earlier, this method was subjective and could have biased the statistical results, but because of the problem of semantics in nursing problem identification and achieving an agreement as to the meaning of the problem, the most efficient and effective means to categorizing the problem list was by one person who consistently and objectively categorized the information.

The investigator then took the data that was made available for the study and had three statistical tests compiled on these data. SPSS, which is the descriptive data, chi-square which looked at the relationship of the variables and each group response, and one-way

analysis of variance which evaluated whether the difference in group responses was significant. These data were examined and the results and discussion provided in Chapter V.

Conclusion

The introduction of the concepts of nursing diagnosis and the diagnostic process did have some influence on the differences in the lists of patient problems/diagnoses and interventions prepared by the participants.

Although attendance at the workshop was difficult to achieve ($N = 13$), the workshop itself was enthusiastically received by those nurses who attended. The majority of the participants agreed with an overall inconsistent and general lack of skill in patient problem identification. Participants actively and enthusiastically participated in the workshop.

The introduction of nursing diagnoses by means of a four-hour workshop resulted in a decrease in the reliance of these participants in the study on other health professions for identification of their problems. This was illustrated by a decrease incidence of medical diagnoses and signs and symptoms in their patient problem/diagnoses list. The literature supports this decrease in reliance upon other health professions by stating that utilization of "nursing diagnoses describes health problems in which the responsibility for therapeutic decisions can be assumed by a professional nurse" (Gordon, 1976, p. 1298). It is also stated that the future foundation of nursing lies in nursing diagnosis because "the significance of

identifying and describing the domain of nursing practice cannot be over emphasized" (Henderson, 1978, p. 77). In summary, nursing diagnoses provides a problem identification specific for the profession of nursing and when utilized, decreases the use of problems identified by other professionals.

It was of interest to note that there was a greater concurrence between the panel for nursing diagnosis and participants who utilized nursing diagnoses than there was between the control group and its concurrence with the panel of clinical experts. This could support the statement that a common language can increase the agreement between nurses in their problem identification skills and that once this agreement is reached, based on skill and knowledge, they can approach the next step of the nursing process, that of planned intervention.

At this time, there are no findings in the literature that would support this finding that a common language will increase concurrence between nurses. It is assumed by the investigator that once the hurdle of problem identification is surpassed, the next step is to resolve the interventions that nurses professionally are responsible to identify.

The use of nursing diagnoses enables nurses to develop a patient problems/diagnoses list that is more concise and inclusive. This was illustrated in this study by fewer problems and interventions identified by Group A than the other two groups. "Diagnoses are shorthand ways of referring to a cluster of signs and symptoms that occur as a clinical entity" (Gordon, 1976, p. 1298). This

shorthand method decreases utilization of redundancy or rewording of same problem within the list and decreases utilization of a sign or symptom that may result in an isolated focus on part of the problem rather than the whole.

The utilization of nursing diagnoses would result in a shorter problem list but a more inclusive list.

Of interest, was the information obtained from the question, "Are you familiar with nursing process?" It would appear that the number of nurses may not be familiar with the nursing process. In this study, 9 of 48 nurses stated they were not familiar with the concept. This is at variance with the commonly assumed notion that the nursing process is widely known and practiced by nursing.

The introduction of the concept of nursing diagnosis and the diagnostic process did effect a difference in the participants' responses. In the view of the investigator, it was a positive effect. Nursing diagnosis and the diagnostic process has the potential to organize and improve the skills of nursing's approach to the patient and his problems if it can be properly introduced, further developed, and utilized in the clinical setting.

Recommendations

Before the concept of nursing diagnoses and the diagnostic process can be successful, it must be practiced by the clinician in a consistent manner. Today, there is a gap between knowledge, practice, education, and "reality" of the hospital environment. A common mode of education and a common mode of practice can be achieved

through utilization of the nursing process and its components. Education should provide the fundamental knowledge and skills, and the clinical setting should provide the opportunity, demand, and support for continued practice of skill and knowledge. By these means, the chaotic and disorganized state of nursing knowledge could be more readily controlled.

This investigator would recommend further emphasis in curriculum of the nursing process and include the skills and practice necessary to achieve the completion of the five steps of the process. It would also be recommended that nursing inservice programs be designed around the nursing process and its components. It would be further recommended that support personnel to staff development, the clinical specialist, head nurses, and supervisors provide the environment and demand to implement the process.

Researchers and educators who are interested and are evaluating the nursing process, could provide a greater access of their endeavors to the clinician by publishing their findings in the journals most frequently read by the majority of clinicians or vice versa. This study would support an incongruency between journals read by practicing nurses and the journals which provide the preponderance of information on the nursing process.

Further study would be of interest to evaluate the communication results of various journals and between nurses in the various areas of education, research, and clinical practice. It is between these areas of nursing that gaps are proposed to exist and where a method of improved communication is suggested.

Recommendations for further study would be suggested in the area of the time element. Of interest, but not measured, was the time factor. Group A completed the task of their case study much faster and with what appeared to be less concentrated effort. Within 30 minutes this group completed their lists. Both Groups B and C spent more time and concentrated effort on their lists with a large number taking a full hour to complete the task. Although this data was not accurately measured, it would be of interest for future study to see if the use of nursing diagnosis effects the time element involved in patient care planning. Clinical nurses often report there is not enough time to provide for adequate nursing care planning. Can the skill, knowledge, and practice of the nursing process decrease the time element required as well as improve the quality of care planning?

The emphasis of this study was on the second component of the nursing process, that of nursing diagnosis, with a look also at nursing intervention. Further investigation is required on nursing interventions because once nurses begin to consistently define problems, they must then offer solutions, and interventions are the means to solution. In this study, interventions were listed for each problem. The interventions listed were general and not outlined as to how and when. There were many interventions that were listed, more than were feasible to accomplish for the patient in his hospital stay, much less during an eight hour shift or 24 hour day. Nursing intervention offers a broad spectrum of areas for further study by nursing.

Nursing diagnosis has the potential to improve the profession of nursing, but it needs to be applied to practice. Further study and endeavor should be made to implement, support, develop, and accomplish this concept by nursing education, nursing research, and the nurse practitioner.

APPENDIX A

NURSING DIAGNOSES--ACCEPTED

Anxiety	Noncompliance
Body Fluids, Depletion or Excess	Nutritional Alteration Less Than Required More Than Required
Bowel Elimination, Alteration in Constipation Diarrhea Impaction Incontinence	Respiratory Dysfunction
Cardiac Output, Alteration in Decreased	Self-Care Activities, Alteration in Ability to Perform
Circulation, Interruption of	Self-Concept, Alterations in Body Image
Comfort, Alterations in Discomfort Pain	Self-Determination, Alterations in
Confusion (see, Consciousness, Alteration in Levels of; Thought Process, Impaired; Sensory Perceptual Alterations)	Sensory Perceptual Alterations (See Confusion; Consciousness, Alterations in Levels of; Thought Process, Impaired)
Grieving Anticipatory Acute Delayed	Significant Others Adjustment to Illness Impairment of
Manipulation	Skin Integrity, Impairment of
Mobility, Impairment of	Sleep/Rest Activity, Dysrhythm of
	Thought Process, Impaired (See Confusion, Consciousness, Alterations in Levels of; Sensory Perceptual Alterations)
	Urinary Elimination, Impairment of Retention, Incontinence, Patterns

APPENDIX B

NURSING DIAGNOSES--FOR CONSIDERATION

Aggressive/Destructive Behavior	Immunological Incompetence
Body, Fluids, Alterations in Composition	Inanimate Object Relationship, Lack
Cardiac Output, Increased	Nonparticipation
Consciousness, Alterations in Level of (See Confusion, Thought Process, Impaired; Sensory Perceptual Alterations)	Parenting, Impairment of
	Reticuloendothelial System, Alterations

APPENDIX C

PROFILE SHEET

A brief profile sheet will be attached to the front of each case study. Information that will be requested from each participant includes:

1. Date of graduation from nursing education program: _____
2. Type of program attended: AD _____ BS _____
3. Please give the name of your school and include its location (state only) _____
4. Number of years of clinical experience in nursing: _____
5. Are you familiar with the term 'nursing process?' Yes _____ No _____
6. Are you familiar with the term 'nursing diagnosis?' Yes _____ No _____
7. Do you routinely write nursing care plans? Yes _____ No _____
Are they of value to you in clinical practice? Yes _____ No _____
8. List the nursing journal(s) you prefer to read:

9. How long have you been an employee at the VA Hospital in Salt Lake City, Utah? (years) _____
10. Where was your last position prior to coming to the VAH, Salt Lake City, Utah? _____
11. How long did you work in another hospital or hospitals and in what other state or states? _____
12. What is your current position?
Staff Nurse _____ Supervisor _____
Head Nurse _____ Other: _____

13. Please state clinical work area: _____

Age: _____ (years)

Sex: Male _____ Female _____

APPENDIX D

PROCEDURES AND OBJECTIVES OF WORKSHOP

A four-hour workshop will be presented to one of the three groups of nurses selected for this study at the VAMC in Salt Lake City. The purpose of this workshop will be to present the concept of nursing diagnosis and the skills of completing the diagnostic process. The workshop will also provide the time and opportunity to exercise these new skills on simulated patient case studies. It is planned that the concept of nursing diagnosis will be presented in such a manner so that the nurses will be comfortable and enthusiastic about taking the concept back to the clinical setting for further implementation and testing to determine its potential function in practice.

The four-hour workshop will begin with a presentation of a nursing assessment case study. The participants will be asked to identify the patient problems and to list the interventions they think appropriate for each problem. This investigator assumes that the problems identified will reflect medical diagnosis, signs and symptoms of the disease process, and nursing activities. The interventions will reflect medical direction rather than nursing direction.

With these problems that will be identified and the list of nursing interventions, the confusion and lack of consistency in problem identification will hopefully be pointed out. The definition and application of the concept of nursing diagnosis and the list of accepted nursing diagnosis would then be presented as a substitution for the problems identified and the interventions that were listed. The exercise in the use of nursing diagnosis will be further simulated in other case studies presented by the investigator.

The goal of the workshop will be that the nurses will have an increased amount of knowledge about a tool that they can take into the clinical setting which will help simplify the task of patient care planning. It is also hoped for the purpose of the study, the participants will be more skilled in writing patient care plans by identifying problems that have implications for the nursing profession and decrease the reliance upon direction of the physician to plan patient care.

The objectives for the learner identify what the nurses should be able to do as a result of the four-hour workshop. After the teaching-learning process the nurse should be able to:

1. Understand the meaning of nursing diagnosis:
 - 1.1 Define nursing diagnosis.
 - 1.2 Define the nursing diagnostic process.
 - 1.3 Relate nursing diagnosis to the five steps of the nursing process.
 - 1.4 Be aware of the classification of nursing diagnosis.
 - 1.5 Distinguish between nursing diagnosis and medical diagnosis.
 - 1.6 Differentiate between nursing diagnostic process and the medical diagnostic process.
 - 1.7 Differentiate between appropriate and inappropriate nursing diagnosis.
 - 1.8 Know the components of a nursing diagnosis.
2. Apply the concept of nursing diagnosis to:
 - 2.1 Identify nursing diagnosis from a nursing assessment.

- 2.2 Use the classification list of accepted nursing diagnosis to identify patient problems; i.e., nursing diagnosis.
- 2.3 Develop appropriate nursing interventions relevant to the nursing diagnosis.
- 2.4 Construct a partial written care plan based on nursing diagnosis nursing interventions.
- 3. Utilize nursing diagnosis in clinical nursing practice:
 - 3.1 Identify patient needs relevant for nursing intervention.
 - 3.2 Adapt a tool (list of accepted nursing diagnosis) to clinical practice of nursing.
 - 3.3 Apply a list of nursing diagnosis to clinical practice of patient care planning.

Background educational experience and individual clinical experience of the nurses will be controlled for purposes of the study. This will be an attempt to assure the investigator that the nurses in the workshop, as well as the nurses in the other two groups, will have had exposure to the nursing process and that they have also been exposed to written care planning in the clinical setting.

There are some expectations of the nurses about their views of patient care planning. The expectations are listed in the objectives that follow:

- 1. The nurses will have a minimum of one year clinical nursing experience:

- 1.1 The nurses will have worked a minimum of one year in the clinical setting, actively involved with patient care.
- 1.2 Nurses will have completed their education preparation within the last ten years.
- 1.3 The nurse will have graduated from a baccalaureate or associate degree nursing program.
2. The nurses will understand the meaning of patient care planning:
 - 2.1 Discuss the process of patient care planning.
 - 2.2 Recognize the value of nursing care planning.
 - 2.3 Identify patient problems.
 - 2.4 Critique the current process of patient care planning provided by nursing.
3. Discuss the problems associated with patient care planning:
 - 3.1 Realize that there is a lack of consistency in the preparation of written care plans.
 - 3.2 Make effort to improve skills in patient care planning.
 - 3.3 Examine ways to improve patient care planning.
 - 3.4 Discuss the nursing process.
 - 3.5 Desire to actively implement the nursing process.

The goals of the instructor will be:

1. To exude an enthusiasm for the subject:
 - 1.1 Generate interest and commitment in the participants.
 - 1.2 Create a sense of excitement and willingness to apply concept and skill to clinical practice.

- 1.3 Create a sense of pride in a tool that is nursing generated and nursing perpetuated.
2. Create an environment conducive to group and individual participation:
 - 2.1 Demonstrate a relaxed and comfortable manner.
 - 2.2 Warm well lighted classroom (environmental controlled).
3. Enhance understanding by participants:
 - 3.1 Present material in clear and organized manner.

Outline of Workshop

I. First Hour

1. Introduction

- a. Purpose of study-questions and answers.
- b. Discuss procedure of case study tasks.
- c. Presentation of first case study, task to be completed in group of two or three, to be completed in thirty minutes.
 - (1) Identify patient problems.
 - (2) List nursing interventions.

II. Second Hour

1. Didactic presentation of the concept of nursing diagnosis and the diagnostic process:
 - a. Define nursing diagnosis and give the historical development.
 - b. Define purpose of nursing diagnosis for nursing practice.
 - c. Differentiate between medical diagnosis and nursing diagnosis.

- d. Describe relationship of nursing diagnosis to the nursing process and to the American Nurses Association standards of nursing practice.
- e. Describe the three components of a nursing diagnosis.
- f. Describe the diagnostic process.

III. Third Hour

- 1. Presentation of examples of comparison between medical diagnosis and nursing diagnosis.
- 2. Presentation of medical directed interventions and nursing directed interventions.
- 3. Discussion by participants on nursing diagnosis and nursing interventions.

IV. Fourth Hour

- 1. Presentation of simulated case studies (two or three).
 - a. Identify nursing diagnosis.
 - b. Identify nursing interventions.
 - c. Discuss responses.
- 2. Summary of workshop, questions, and discussion.

APPENDIX E

STUDY INSTRUMENT--CASE STUDY

Case Study

Sam Blake is a 72 year old white male who was admitted to the Intensive Care Unit 2 days ago in diabetic ketoacidosis. He is no longer critically ill and is being transferred to a general ward. His doctor anticipates he will be discharged in one week.

The following data is available to you from the patient, the intensive care nurses, the patient's daughter, the physician, the chart, and your own physical assessment.

Chief Concern

"My sugar isn't right."

Present Illness

On the day of admission, Mr. Blake was found at home in a confused and combative state by his daughter. He had apparently forgotten to take his insulin and also did not remember when he last ate. He did not think he needed to go to the hospital but his daughter was able to persuade him to go to the Diabetic Clinic. As his daughter was driving him to the clinic, he lost consciousness. Mr. Blake was admitted to the Intensive Care Unit where he regained consciousness after 24 hours of treatment.

Past Medical History

Mr. Blake's adult-onset diabetes was diagnosed 20 years ago. He was first managed with oral hypoglycemic agents, however, 5 years ago he was started on insulin. Mr. Blake kept his diabetes fairly well controlled until last year. In the past six months, Mr. Blake has been hospitalized several times due to poor control of his diabetes.

He was discharged from this hospital 3 weeks ago and has not kept his clinic appointments in the Diabetic Clinic.

Drug History

Mr. Blake takes the following medications at home: NPH Insulin, 70 Units SQ every morning; NPH Insulin 10 Units SQ every evening; aspirin 10 grains prn headache; Rolaids 1 tablet prn indigestion; Milk of Magnesia 2 TBsp. prn constipation.

Allergies

Codiene; nausea and vomiting.

Immunizations

Flu 1979; pneumococcal vaccine 1979.

Previous Hospitalizations

Tonsillectomy, 1929
Diabetes (diagnosis), 1960
Diabetes, 1975
Diabetes (twice), 1979
Diabetes (twice), 1980

Family History

Mr. Blake's mother and father died in their 70's of old age. He thinks his mother had diabetes and his father had heart disease but he is not sure. Mr. Blake was their youngest child. His two brothers and three sisters have died. His other sister is living in a nursing home. Mr. Blake does not know about their health histories.

Mr. Blake's wife died last year from a stroke at age 70. Mr.

Blake and his wife had three children. His son and one daughter live out of state. The other daughter lives close to Mr. Blake and has been trying to watch out for him. All of Mr. Blake's children are in good health.

Social History

Mr. Blake lives alone and is financially dependent on his Social Security income. He retired from his job as a bus driver at age 65. For the first five years of his retirement, Mr. Blake was a school crossing guard.

Mr. Blake's daughter states that she has noticed significant changes in Mr. Blake since his wife died one year ago. He no longer is interested in his hobbies of gardening and building models. He does not care for himself as he used to either. His daughter says that Mr. Blake seems very forgetful but when she tries to help him, he is offended and refuses her offers of assistance. She also worries about his diet. Before his wife died, he enjoyed sharing in the cooking. Now he regards it as an unnecessary chore.

Mr. Blake smoked two packs of cigarettes per day from age 20 to age 55. He drinks alcohol occasionally.

From your physical assessment of Mr. Blake you gain the following information:

Vital signs: Temperature 99°F. Pulse 90 respirations 25. Blood pressure 150/90. Height 5'10". Weight 140 lbs.

General: Mr. Blake is a thin, poorly nourished man who looks as old as his stated age.

Head: Normocephalic.

Eyes: Pale conjunctiva. Lens and cornea clear. Patient wears glasses with adequate correction. Extra-ocular movements are intact.

Nose: Normal.

Mouth: Lips are dry and cracked. Teeth and gums are in poor repair. Buccal mucosa is dry with ulcerations. Tongue has white coating. Tonsils are absent.

Neck and nodes: Normal.

Skin: Dry with poor turgor. There is a large (5 cm diameter) ulcer on the left heel. The lower extremities' skin is pale, thin and hairless from the knees down.

Chest: Lungs are clear. No abnormal heart sounds are heard. The heart is not enlarged by exam. The venous pressure is judged to be 10 cm of water.

Peripheral pulses:

Carotids	R 3/4	L 3/4
----------	-------	-------

Femorals	R 3/4	L 2/4
----------	-------	-------

Popliteals	R 1/4	L 1/4
------------	-------	-------

Posterior Tibials	R 0/4	L 0/4
-------------------	-------	-------

Dorsalis Pedis	R 1/4	L 0/4
----------------	-------	-------

Abdomen: Soft, non-tender, no masses. Bowel sounds active all four quadrants.

Neural: Awake and alert. Oriented to self, time and place. Follows simple commands. Answers appropriately. Unsteady as transferring from wheelchair to bed. Cranial nerves 2 through 12 grossly intact.

Musculo-Skeletal: Spine has slight increase in upper curvature. Slight limitations in range-of-motion.

Lab Data: Hemoglobin 12 gm; Hematocrit 35%; WBC's 15000

<u>Serum:</u>	Sodium	148 mEq/L
	Potassium	5 mEq/L
	Chloride	100 mEq/L
	CO ₂	20 mEq/L
	Glucose	350 mgm%
	BUN	23 mgm%

<u>Urine:</u>	Glucose	4+	Acetone	1+
	Specific gravity 1.020			

APPENDIX F

LIST OF DIAGNOSES/PROBLEMS LISTED BY PANEL
OF EXPERTS

List of Nursing Diagnosis Experts

Alteration in ability to perform self-care
Alteration in skin integrity
Norm compliance
Grieving
Alteration in nutritional state (less than)

List by Clinical Experts

Dehydration
Malnutrition
Anemia
Depression
Diabetic ketoacidosis
Lack of education
Infectious process

REFERENCES

- American Psychological Association. Publication manual. Washington, D.C.: The Association, 1967.
- Aspinall, M. J. Nursing diagnosis the weak link. Nursing Outlook, July 1976, 24(7), 433-437.
- Aspinall, M. J. The use of a decision tree to improve accuracy of diagnosis. Nursing Research, 1980, 29(3), 182-185.
- Bent, D. H., Hull, H. C., Jenkins, J. G., Nie, N. K., & Steinbrenner, K. Statistical package for the social sciences (2nd Ed.). New York: McGraw Hill Book Company, 1975.
- Bircher, A. On the development and classification of diagnosis. Nursing Forum, 1975, 14(1), 10-29.
- Bruce, J. A. Implementation of nursing diagnosis. Nursing Clinics of North America, 1979, 14(3), 509-515.
- Campbell, C. Nursing diagnosis and intervention in nursing practice. New York: John Wiley and Sons, 1978.
- Campbell, D. T., & Stanley, J. C. Experimental and quasi-experimental designs for research. Chicago: Rand McNally and Company, 1978.
- Ciuca, R. L. Over the years with the nursing care plan. Nursing Outlook, 1972, 20, 706-711.
- Davis, M. L., & Johnson, M. M. Problem solving in nursing practice (2nd Ed.). Dubuque: William C. Brown, 1975.
- Dodge, G. H. Forces influence move toward nursing diagnosis. Association of Operating Room Nurses Journal, 1975, 22(2), 157-158.
- Dodge, G. H. Current works to define and classify nursing diagnosis. Association of Operating Room Nurses Journal, 1975, 22(3), 327-328.
- Durand, M., & Prince, R. Nursing diagnosis: A process and decision. Nursing Forum, 1966, 5(4), 50-64.
- Field, L. The implementation of nursing diagnosis in clinical practice. Nursing Clinics of North America, 1979, 14(3), 497-508.
- Fredette, S., & O'Conner, K. Nursing diagnosis in teaching and curriculum planning. Nursing Clinics of North America, 1979, 14(3), 541-552.

- Fry, V. A creative approach to nursing. American Journal of Nursing, March 1953, 53(3), 301-302.
- Gebbie, K., & Lavin, M. Classifying nursing diagnosis. American Journal of Nursing, 1974, 74(2), 250-253.
- Gebbie, K., & Lavin, M. Proceedings of the first national conference in nursing diagnosis. Saint Louis: The C. V. Mosby Company, 1975.
- Gebbie, K., & Lavin, M. Summary of second national conference on the classification of nursing diagnosis. Saint Louis: Saint Louis Clearinghouse National Group for Classification of Nursing Diagnosis, 1976.
- Gordon, M. Nursing diagnosis and the diagnostic process. American Journal of Nursing, 1976, 76(8), 1298-1300.
- Gordon, M. The concept of nursing diagnosis. Nursing Clinics of North America, 1979, 14(3), 487-496.
- Gordon, M. Predictive strategies in diagnostic task. Nursing Research, 1980, 29(1), 39-45.
- Guinee, K. K. Teaching and learning in nursing. New York: MacMillan Publishing Company, 1978.
- Henderson, B. Nursing diagnosis: Theory and practice. Advances in Nursing Science, 1978, 1(1), 75-83.
- Jackson, C., Edmundson, V., & Green, D. R. Promoting written care plans. Supervisor Nurse, 1978, 9, 43-47.
- Little, D. Nursing care plans. Presentation at Intermountain Health Care, Salt Lake City, Utah, 1980. (Nursing update)
- McKay, R. P. What is the relationship between the development and utilization of a taxonomy and nursing theory? Nursing Research, 1977, 26(3), 222-224.
- McManus, R. L. Assumptions of functions of nursing. In Regional planning for nursing and nursing education. New York: New York Bureau of Publications, 1951.
- Myers, N. Nursing diagnosis. Nursing Times, 1973, 69(38), 1229-1230.
- Polit, D., & Hungler, B. P. Nursing research: Principles and methods. Philadelphia: J. B. Lippincott Company, 1978.

- Roscoe, J. T. Fundamental research statistics for the behavioral sciences (2nd Ed.). New York: Holt, Rinehart & Winston, Inc., 1969.
- Roy, C. The impact of nursing diagnosis. Association of Operating Room Nurses Journal, 1975, 21(6), 1023-1030.
- Sculco, C. Development of a taxonomy for the nursing process. Journal of Nursing Education, 1978, 1(17), 40-48.
- Weber, S. Nursing diagnosis in private practice. Nursing Clinics of North America, 1979, 14(3), 533-539.
- Yura, H., & Walsh, M. B. The nursing process (3rd Ed.). New York: Appleton-Century-Croft, 1978.